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THE TEACHING OF GEOGRAPHY



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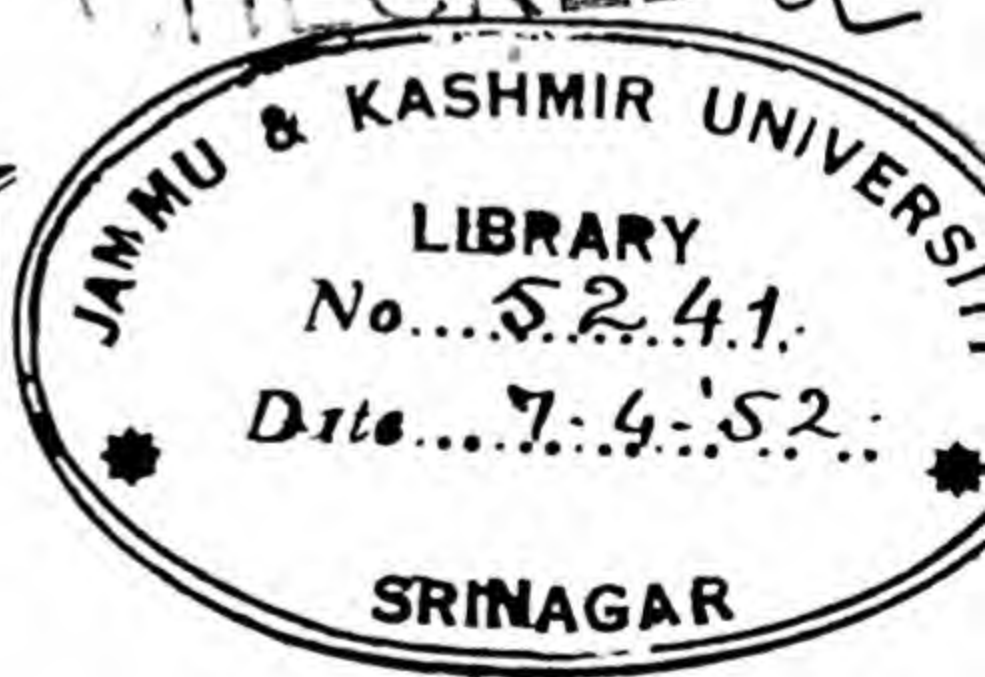
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PREFACE.

For the adequate consideration of the teaching of geography three persons are essential: first, the educationist who should determine the use to be made of geography in the education of the young, the principles that should guide the selection and arrangement of the geographic topics, and the spirit of the teaching and learning; second, the geographer, who from the fullness of his knowledge will supply the right geographic ideas illuminated with appropriate and varied illustrative detail; third, the practical teacher who from his experience can suggest those details of procedure, those devices and "tricks of the trade" that have proved successful in making learning both intelligent and thorough.

In this book I profess only to discuss the principles of the teaching, although, from my long interest in geography itself and from my experience of practical teaching, I hope I may claim to have given the discussion a bearing and an application of value to the practical teacher.

The title of the book—*The Teaching of Geography*—has given me much concern. It has been chosen because of its compactness and familiarity, rather than because it accurately expresses the spirit of the book. My thoughts in writing the book have been much more concerned with "the teaching of pupils," or rather "the educating of pupils," than with "the teaching of geography." I have emphasised throughout that the main concern of the

teacher is not the subject he is teaching, but the pupils whose learning he is there to stimulate and direct. What they are, what they are to become, what and how they are thinking and feeling and doing now, and what and how they should think and feel and do when they attain to manhood, is the teacher's vital concern. It is by this criterion, and not by any criterion derived from the subject-matter, that the teacher should determine both what kind of geography should be taught and how it should be learnt.

The subject—geography or whatever else it may be—is only a means; merely to know it is not an end in itself. To learn it for its own sake is an academic proceeding. Our pupils are not going to be geographers or meteorologists or cartographers—at least in the schools—and to learn geography with the attitude and the spirit of the geographer is a proceeding that has nothing to do with school education.

The teacher's aim in school should be cultural, not academic or professional. He must teach and guide learning, excite in his pupils imagination and thought, sympathy and interest, effort and will, so as to expand their intellectual and moral vision, enlarge their sympathies and interests, and quicken their intellectual and moral sensibilities with regard to the problems of life and the world; for the spirit of true education is not "knowledge for its own sake," but knowledge for the understanding of life, so that life may be thought more broadly and clearly, felt more humanly, and lived more wisely and effectively.

The school—and especially the Secondary School—tends towards the academic. Its teachers, with the spirit and traditions of the university, often teach knowledge as an end in itself, or frankly for the sake of scholarships and examinations. They fail to see life with its practical and social

relations, its human, national and world problems as the great end of all their efforts, as that which should give learning a purpose and make knowledge a means to wisdom and judgment. Because of this academic spirit, the secondary school is failing in its true purpose of bringing its pupils into living touch with life and developing in them the intellectual and moral power of dealing effectively with its human problems.

Only when the school, through the character of its instruction, its pursuits, its societies for discussion and debate, its journals for the public expression of its pupils' ideas and opinions, its library and reading rooms, its active touch with, and participation in, local activities, its many sided activities and interests that appeal to, and exercise, every side of the pupil's nature and every mode of his mental activity—only when through all these it seeks to lead the pupils to a full life in daily growing touch with the life of the world around—can it rid itself of the taint of academic scholasticism and accomplish the great work it has to do in preparing the youth of the nation to face with intellectual power and with the right spirit the wider issues of life, of the nation, and of the world at large.

Part of this book, Chapters I. to V., was written for *The Principles and Methods of Teaching* by Dr. J. Welton, as the chapter on "The Teaching of Geography." These chapters deal with the aim and content of school geography. The remaining chapters treat of the spirit and methods of the teaching and learning. The whole, however, was written at one time and presents a continuous and sequential treatment. By the kind permission of the publishers the whole is now presented to the public as a complete book.

W. P. WELPTON.

July 1923.

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CHAPTER I.

EDUCATION AND GEOGRAPHY.

The Meaning and Scope of Geography. **G**EOGRAPHY presents one of the most difficult of all the problems of school instruction because of the vast scope of its subject matter. Its study embraces all the phenomena of the earth's surface. It is concerned with the great natural phenomena of day and night, seasons, climate, surface form and sculpture, rivers, oceans, tides and currents, equally with the great phenomena of plant, animal and human life in all their varied types, distribution and development. In its scope it ranges from the physical sciences of astronomy, climatology and geology, through the natural histories of botany and zoology to the human studies of anthropology, ethnology, sociology and history. It overlaps them all and lays each under contribution. Like the bee it sucks its honey from every flower. Indeed, so much does it borrow from other studies that it has been charged with having no separate existence of its own and with being but a compilation of heterogeneous facts culled from the recognised sciences and serving as a compendium of useful information about the countries of the earth. That charge was true of the geography of a generation ago. Since then the science of geography has been

born. Geography is now a serious scientific body of knowledge with a point of view and methods of its own. True, it shares its subject matter with many other sciences, but so do all studies that deal with the larger and more complex problems of nature and life; and none has a larger and more complex problem than Geography.

Every science takes for its field of study some more or less restricted part of the universe and examines it from its own point of view and according to its own methods. Chemistry and Physics, for example, deal with the constitution of matter and the changes that take place in the atom and molecule. Astronomy deals with the larger and more complex physical units of stars and star systems. History treats of human societies or political units. Geography takes for its unit of study the regions that make up the earth's surface. Though the earth's surface exhibits an infinite variety of physical conditions and of plant, animal and human life, amidst that diversity the discriminating eye can discern fundamental uniformities that lead the geographer to classify the many regions into a small number of types. There are many desert regions, for example, but because of the similarity in their general conditions of heat and rainfall, in the forms of their plant and animal life, and in the general lines on which human life and social and economic activities are carried on and develop, they are all grouped together as one type of Natural Region fundamentally distinct from such other regions, as equatorial forests, grasslands, and the regions of ice and snow.

The work of the geographer is to study each of these types of region and endeavour to explain its conditions and life as a whole. The geologist, meteorologist, botanist, through to the sociologist and historian, study their own special aspects of a region. They realise that there is over-

lapping and infinite inter-relationship among their studies, for physical conditions influence climate, climate affects vegetation, vegetation animal life, and all bear on human activities. Each of them, nevertheless, confines himself to his own aspect of the region and leaves the others to explore their own domains.

The geographer, however, with a view that embraces the region as a whole and accepting data from each of the narrower studies, examines the interplay of the various aspects with each other and so tries to explain the region as a complex unity of inter-related parts. While each of the others pursues his own thread in its diverse wanderings, unravels it and separates it from its interweavings with the other threads, the geographer studies the interweaving of the threads and the pattern that results.

Geography, thus, takes a wide outlook, and endeavours to grasp the play and interplay of all the physical factors in the complex problems of the life of human communities on the earth. Herein lies its peculiar value in the cultivation of the human mind. Its study stimulates to a broad vision on human life and endeavour, to viewing in a large and wide way the life of communities, their relations to each other, and the various forms of their development; and to give vision—an intellectual, moral and social outlook on the problems of life—is one of the purposes that should dominate all educational effort.

Towards the attainment of that purpose geography should play a great part. It should rank with literature and history as one of the great moralising and civilising studies of the school curriculum. Literature should bring to us the great thoughts of men of all times. History should put us at one with the social and national life and spirit. Geography, in its turn, should bring us into living touch with the life and activities of the whole

human race. It brings before our consideration every form of human existence, of occupation, of effort in the conquest of nature's obstacles and in the exploitation of nature's resources for human life and progress, and of social and economic development. We can thus see our own nation as one of a great community of diverse nations and peoples, and are able to judge better of our own country and of the problems that face it in its relations with other communities in the world. By seeing the whole widely we gain a point of comparison from which to judge ourselves.

2. While the great scope of geography is one of its educational excellences, its extent gives rise to problems of the greatest difficulty to the instructor. Naturally teachers have been bewildered by its vastness and have tried to limit it. Influenced, no doubt, by the intrinsic interest of the study of the varied forms of human life and activities, and also, too, by the value of such a study to the culture of the mind on its human and social sides, teachers have come to emphasise the human aspect of geography and to define it for school purposes as "The Study of the Earth as the Home of Man." Some, in their emphasis on the human, would go still further and utterly subordinating the physical would treat geography solely as "The Study of Man on the Earth."

The persistent tendency to humanise geography for school purposes indicates that teachers have been to some extent influenced by the needs and interests of the pupils rather than by the academic demands of the subject, though such educational considerations are only too often ignored. Frequently teachers—and specialist teachers are the worst offenders—tend to teach subjects rather than pupils, to fit pupils to geography rather than adapt

geography to the nature and needs of the pupils. It will be wise, therefore, to begin the consideration of geography in the school by an attempt to establish a definite criterion of educational value which can be applied to the selection and arrangement of geographical topics to meet the nature and needs of the pupils.

The child is launched into a world of things and events, of human beings and human communities with which he has progressively through life to establish right relations of knowing, feeling, and action. The process of education, looked at broadly, consists simply in arranging for the child opportunities for exercising his native powers of intelligence, feeling and action on his physical and human environment, and guiding and directing that exercise so that he will come to think wisely, feel rightly, and act effectively in regard to things and people. Teaching should, therefore, be determined primarily by the nature of the child's activities and powers and by the end towards which their development should tend. That end is the life, with all its manifold duties and activities, that lies before the child, his future life as a man and a citizen.

Instruction, then, is not concerned primarily with imparting knowledge, with teaching science and mathematics, history and geography, for their own sake, but essentially with a teaching and a learning that will lead to a wise and understanding conduct of life. It seeks before all the enlargement of the intellectual and moral vision, the cultivation of insight, imagination, and sympathies, and the quickening of the intellectual and moral sensibilities. As life is a wider and higher thing than knowledge, living a worthier end than knowing, so the efforts of the teacher should be directed to training his pupils to a wise conduct of life rather than to knowledge for its own sake. Knowledge is a means, not an end. It

is a means to life. So subjects are not ends in themselves but must subserve the aim of education and be adapted to the needs of life.

3. The teacher of geography, therefore, is not concerned to accept geography as defined and outlined by the geographer. As an educator he is primarily a teacher of pupils rather than a teacher of a subject. He is a teacher of a subject only to the extent of adapting it and using it to promote the right development of his pupils' powers and activities. Hence the teacher's first questions are: How can geography be adapted to the pupils' needs? What aspects or portions of its subject matter can aid in their intellectual, moral and social development? In what spirit and by what methods must these be studied so as to throw a strong light on the problems of life? Whatever topics and methods and outlook will not help in the solution of these problems must be discarded, however valuable and important they may be to the geographer. The teacher's aim is cultural, not academic and professional. His business is not to train little geographers, cartographers, surveyors, meteorologists, but men and citizens interested in, and intelligently enlightened on, the problems of the world and its peoples. Hence he is concerned not so much with geography *qua* geography as with interpreting the world and its peoples to his pupils in the light of geographical knowledge; and this is a far more difficult and complex problem than teaching mere geography as such.

How then does this conception of education determine the selection of geographic topics for school study? The important problem of the world for the man and citizen is to understand the world of peoples, and their economic and political activities in relation to himself as an individual

School
Geography as
the Study of
the Peoples
of the World.

and as a member of an economic and national community. The citizen of to-day is more than a citizen of a country, or even of an empire. He is these, but he is also a citizen of the world. As no man can live unto himself or by himself, so no community or nation can live unto itself and by itself. The world of to-day is a great co-operative society of communities and nations. The great war and the struggle for a stable peace after the war have brought this home to the most independent and insular of our citizens. Each community lives its national and economic life in close relationship with and dependence on the national and economic life of all the others. As Emerson wrote long ago, "The private poor man has cities, shops, canals, bridges, built for him. He goes to the post office and the human race runs on his errands." So, too, the human race in every part of the world feeds him, clothes him, provides him with all the necessities and luxuries of daily life, cooperates and competes with him in his political and economic capacities, at times fights with him. Never for a moment can he shake off the economic, political, social and cultural bonds that link him to all the other communities in the world.

It is vital, therefore, for the intellectual and moral enlightenment of our future citizens and for the peaceful progress of the world that our pupils, as they progress to maturity, should come to an intelligent and sympathetic understanding of other world-communities. They should know what each of the great world-communities is, what it provides and does for us and for the world, what it stands for in civilisation and in peaceful progress, what are its economic, political and racial ambitions and aspirations, and what are its relations to ourselves and to other communities. These are the real world-problems for the man and the citizen.

The geographer, no doubt, will retort that this is not geography. Strictly speaking it is not geography, or rather it goes beyond geography to include politics, economics and history. It is world-problems interpreted by geography. But, whatever we call it, it is what we, as men and citizens, ought to understand about the world and its peoples. To the intelligent grasp of this, geographical knowledge will greatly help, indeed, is essential to any right vision and thought of it, for Human Geography is one of the foundations of the science of collective living on the earth. But what matters what we call this study, Geography or any other name, so long as we are clear what its content for school instruction should be? It is better to adapt geography to the needs of our pupils than cramp their development by the limits of an academic definition. Hence, for purposes of school instruction we will define Geography as the study of the Peoples of the World.

CHAPTER II.

INFLUENCES ON HUMAN LIFE.

**Factors
Influencing
the Life of
Peoples.** 1. Before selecting and arranging the topics on the Peoples of the World it is advisable to grasp the factors that influence the life, activities and progress of the people of any region. Three stand out as pre-eminent, viz.:

(1) the physical conditions of the region ; (2) the economic relations of the people with other communities ; and (3) their historic development. These factors and their effects weave and interweave themselves to fashion the destiny of a people, and they must figure markedly in any schemes on the Peoples of the World.

**Physical
Influences.** 2. Physical conditions are permanent and persistent, though their effect on human life and progress varies in character and in extent according to the innate capacity and degree of civilisation of the people. They comprise the surface form of mountain, valley, and plain, the river system, coast features, relation to surrounding areas of land and water, climate and vegetation, minerals and soil. From these spring the resources, opportunities, and facilities for human life and progress. To live in a country and to develop in mode of living man must use nature and exploit her with energy, initiative, and thought. From nature he obtains or fashions his food, clothing and other necessities of

existence. By her scarcity or abundance nature stimulates man to energy, foresight, competition, and cooperation, from which spring individual and social development; or encourages idleness, lethargy, and stagnation. By exploiting nature's resources a community builds up industries and trade, and nature points out with inevitable finger the position for cities and ports and the highways of trade. In every aspect of life, in the provision of necessities, in economic and social development, in defence against aggression, or in national expansion, nature provides the resources, facilities, or opportunities for man to use by his energy, initiative, and intelligence.

Physical conditions, too, often act as hindrances and obstacles to life and progress. Mountain chains, dearth of rivers, and a forbidding coast are serious disabilities to building up trade; forests and marshes hinder communication, and social organisation cannot advance till the one is cleared and the other drained; desert land of sand or snow will not support a settled population. These are examples of natural obstacles to human life and progress. If communities are to thrive under such conditions human energy and ingenuity must find a way to overcome or circumvent them.

The use that is made of nature's resources in any area and the extent to which obstacles are overcome depend on the energy, initiative, intelligence, and power of social organisation of its people. Environment and human effort react on each other. Opportunities and difficulties stimulate man to activity; on the other hand, energy and intelligence expose resources and opportunities, and build up a thriving community where lack of initiative can barely carry on a primitive existence. The constant reaction of environment and human capacity makes for continual progress, which stabilises itself in language,

knowledge, skill, arts, crafts, and economic and social institutions. So out of the continual effort of man to live well and to thrive in a region and make of it a "home," civilisation is born, advances, and spreads itself over the earth.

Of the physical influences climate is undoubtedly the most persistent and fundamental. On it depend dress, dwellings, food, and daily and seasonal habits of life. Through its effect on vegetation it influences the agricultural and pastoral occupations and produce, the density of population, and the well-being and wealth of the people. Its influence is also felt on the social and political organisation and institutions that develop. For example, the social organisation that is suited to a scantily populated desert region like Arabia is not suited to a populous fertile river valley such as the Nile or Ganges. So important and far reaching are the effects of climate on every aspect of the life, activities and progress of a people that geographers have made climate and its resultant vegetation the fundamental basis of their classification of the areas of the world into Natural Regions.

This classification has done much to raise geography from the rank of a descriptive study to that of a rational explanatory science, and to economise the labour of learning it. The general relations that exist between climate, vegetation, and human activities and progress serve as the basis for inferring the general nature of the problems of human life in each main type of region. Hence, the study of one example of a type of region covers the general problems of every example of that type. The problems of the Congo, an equatorial forest, are in general similar to those of the Amazon; those of the Sahara, a hot desert, similar to those of Arabia. Thus, the general geography

of the world can be economically studied through its main types of region, and rationally explained from the general climatic and vegetative conditions.

Each region, obviously, will exhibit its own peculiarities arising from other factors, *e.g.* surface contour, the nature of the river system, and its position relative to other land and sea areas, and to other communities, primitive or civilised. These will influence the position of its centres of population, its cities and towns, its ports, its natural highways for internal and external trade, and the external human influences that advance or hinder its progress. But given the type of climatic region, the main lines of the life and progress of its people are fixed within certain broad limits. Hence, whatever scheme of geography be proposed for school study, the conception of Natural Regions should form an essential principle in its construction.

In the emphasis on climate it must not be forgotten that other physical circumstances play a part, and sometimes a striking part, in the destiny of a people. For example, the island character of Great Britain, its proximity to the Continent facilitating trade with and invasion from France, the German plain, and the Baltic lands, its fertile and easily penetrated river plain facing the East, its northern and western highlands, its position lying across the ocean routes to the river entries of Northern Europe have all been decisive factors in the life and development of our island. Again, the mountainous character of the Balkan Region, its relation to the great European plains on the one hand, and to the Mediterranean on the other, its great natural highways linking the plains to the Mediterranean and the East, have always been prominent in the history of its peoples from earliest times. Further, each type of physical region gives rise to its own peculiar type of

Other Physical
Influences.

social life and organisation. The peoples of a mountain area such as the Alps or Afghanistan, of a great plain such as that of Russia or the Argentine, of a fertile river basin such as the Mississippi or the Ganges, of an island group as that of the Aegean or Malay archipelagos, present respectively features that directly spring from the dominant physical characteristic of their country. There are, thus, more or less distinct types of mountain, plain, riverine, and island communities each presenting its own problems.

3. In dealing with an area, therefore, the teacher will select for study those physical circumstances that most strikingly have influenced the life, activities, and progress of its people. For example, in the study of Egypt three main physical features will form the central themes; viz.:—the Nile and its annual flood; the surrounding desert; and its position linking India and the East to the Mediterranean and the West. These three physical conditions have influenced Egyptian life and problems from the beginning of its civilisation and were the main factors in the problems of the late British occupation and administration of Egypt.

“Egypt,” in the words of Herodotus, “is the gift of the Nile.” Its whole civilisation springs from it. Without the Nile and its annual flood the land would be desert. Failure of the flood means famine; repeated failure would be dissolution. The country consists of the reclaimed marshes and fens of the Delta and a strip of alluvial valley 600 miles long and varying in breadth up to 15 miles. The region is practically rainless and its fertility entirely due to the warmth of the climate and the annual flood. The floor of the valley being alluvial soil is practically level. Consequently a small

variation in the height of the flood means a large variation in the area watered and fertilised. Each year's prosperity, therefore, centres on the height to which the flood will rise. No human ingenuity can add to the height of the flood; all that man can do is to use the flood water to the utmost advantage. He can invent and construct dams, barrages, and reservoirs to conserve the flood waters and irrigation-canals to distribute them over wider areas. Such measures, however, require social consolidation and organisation of more than a primitive village type and an advance in the arts of measuring and construction. Hence our first step in the study of man's exploitation of the Nile is to see how social organisation, a central administration, and a public service came into being.

The earliest life, of which we have any knowledge, in Egypt was that of a number of primitive tribes settled in villages along the 600 miles of river valley, maintaining their existence by hunting the wild fowl and animals of the deltaic marshes and river jungle, by the pasture of oxen and goats, and by the primitive cultivation of the narrow alluvial strip of soil annually fertilised by the flood and increased by the ceaseless toil of primitive lever and bucket. Corn, flax, the date palm, wild birds and animals provided them with food and clothing, the Nile mud and its reeds with the materials to build shelter from the sun's heat by day and the chills of the evening cold. Trade of a casual primitive character existed between the riverine villages. Boats and oars carried trade and social intercourse up and down the river. Across the desert pathways the desert wanderers brought occasional valuable treasures in exchange for corn and oxen; and so articles of gold and ivory came from the Upper Nile, coral from the Red Sea, turquoise from Sinai, while copper came

from the quarries and mines of the desert margins and from Nubia and Sinai and probably from Cyprus. In early times, however, no organised trade existed. Simple primitive arts were in existence such as pottery, spinning and weaving, and the making of copper and bronze implements which were decorated with animals and birds, the signs of the local deities. The making of iron implements and of bricks was unknown and was introduced only when Egypt came under foreign influence.

What originated the first step to political unity is unknown. Perhaps the first advance came when the tribe most stimulated by intercourse and trade and by foreign influence, however small, started on a career of conquest. As Professor Myres writes: "A region in which inter-tribal intercourse, friendly, competitive, or hostile was supplemented not only by up and down stream traffic, but also by the supply and demand of transverse routes between the coast and the oases, was clearly in an exceptional position for acquiring both commodities and ideas, and to provide that elementary margin of leisure and reserve of vitality which permits such luxuries and superfluous achievements as art, organisation, and indeed enterprise of any kind."¹ Probably, too, newcomers came from without and brought the whole region under one rule by a series of conquests, and were finally absorbed just as the Normans invaded and conquered England and stimulated it to advance in political unity, in government, and in the arts of industry and commerce, and were ultimately absorbed in the native population.

However it came about, the whole valley and delta were finally brought under one rule and an advance in economic life and in culture due to social and political

¹ *The Dawn of History*, p. 59.

organisation became possible. Agricultural prosperity increased by the construction of irrigation canals, and by the clearing of jungle and the draining of marshes. With accumulating wealth, and encouraged by political unity, riverine trade was established on an organised basis. With the increase in population and trade came industries, towns and cities. Stone from the sides of the valley and from Nubia took the place of mud and reeds for the dwellings of the rich. Palaces, temples and mausoleums for the bodies and spirits of the dead sprang up all over the land and were decorated with the images of deities and the great ones of the land, and with the sacred symbols in flowers, animals and birds. The art of architecture had got itself born. As more and more the cultivation of the alluvial soil and the clearing of the marginal jungle were extended up and down the river banks, frontiers between villages and districts, and between the fields of the various landowners and cultivators needed to be delimited accurately and beyond risk of derangement by the annual flood. Out of this need sprang the arts of surveying. To fix the yearly feast days and the time and duration of the annual rise of the flood the stars and their movements were studied and a calendar invented. So Mathematics and Astronomy were born.

Thus arose and were consolidated an Egyptian economic, social and political civilisation, and an intellectual and aesthetic culture. It sprang from the Nile by the progressive exploitation of its fertility. It became possible by the development of social and political organisation and unity, the Nile being the thread that bound the tribal elements into a social, political and cultural whole. It was a culture, the growth mainly from its own necessities, self-sufficing and isolated from the influences, friendly or hostile, of foreign peoples.

(ii) The Surrounding Deserts.

The second in importance of the physical influences controlling the natural destiny of Egypt is the desert that surrounds it. West and east the utter desert, south the desert and the river cataracts, north the sea and the deltaic marshes and sandbanks isolate Egypt from foreign influences and protect her from foreign aggression. For centuries during which her civilisation had time to establish and consolidate itself no outside influence by friendly trade or hostile aggression moulded her growing culture and political system, except such casual trickles as came by way of the desert pathways. Only when trade was established between Egypt and Babylon by way of Syria and the deserts and between Egypt and the Mediterranean peoples by way of the Phoenician and Greek sea traders, did Egypt enter on a new phase in her development. Knowing and becoming known by others, she began a career of foreign aggression and herself became an object of desire to others.

The desert acts to Egypt both as friend and foe. It hinders peaceful trade, but makes armed invasion difficult as, too, it makes foreign aggression by Egypt herself. Time after time has Egypt tried to expand her power beyond the desert barrier of Sinai, time after time have foreign powers, Babylon and Assyria, from beyond the desert sought the conquest of Egypt but always sooner or later has the desert undermined each attempt and brought it to ruin. Only when invasion came by sea, outflanked the desert defences, and brought armies and all they needed easily within the desert barrier has foreign invasion from a distance been successful. Thus it was with the invasions of Greece, Rome, France, and England. Sea-Power gave these success and maintained it.

The desert, however, holds within itself the most deadly

foe to Egypt's national life and culture, against whom Egypt had to wage a constant war and by whom she has again and again been overwhelmed. The desert breeds fierce hardy nomads accustomed to privation and warfare, swift to attack and retreat, and inured to desert life and travel. The wealth and food and oxen of the agricultural fringes of the desert are a constant temptation to the desert nomads; and the raiding of frontier towns and villages, from Lybia and Nubia with the accompaniment of burning homesteads, massacre, rapine and slavery have always been a constant menace and a frequent occurrence. At times, when drought, excess of desert population, religious fanaticism, or military ambition united the desert tribes in a common onslaught, Egypt has been swept by desert hordes, conquered, and held as a tributary province of a desert empire. In early days Nubia, later Arabia, exercised this sway. In the nineteenth century the Soudan under the Mahdi tried to play the same part, and it was only by British leadership, British arms, and by the railway that overcame the desert obstacle, that the invasion was repelled and the Soudan conquered.

The desert is to Egypt, then, a perpetual foe, unless she can conquer it, subdue it, and bring it within the scope of her economic and social culture. She can never ignore it. She must either hold the desert frontier by force of arms, or conquer its peoples and civilise them. This latter, with the help of Western European inventions, trade, industry and sea power, and under the direction of Western European leadership, Egypt is now doing.

The desert nomad, however hostile in his aggressive instincts and habits, plays the friendly part of desert trader and brings the fertile and cultured distant fringes of the desert into touch with each other for the exchange of products and of ideas. "The nomad alone can traverse

the desert as the sailor traverses the sea, and put one margin into touch with the opposite side. He alone knows the landmarks and the wells, and can arrange safe conduct from tribe to tribe, utilising his friends, and avoiding the neighbourhood of his enemies. At first such traffic is accidental . . . but in time the thing becomes habitual; terminal bazaars spring up, like sea ports on the desert margin; landmarks, wells, and camping grounds are respected by common consent; caravans are organised and ply regularly, going armed like an East Indiaman against the pirates of the sand-ocean . . . The caravans are conducted, of necessity, by the nomads themselves, and among them they necessitate some changes of habit and organisation. They train to foresight and discipline, for a caravan . . . moves as one family, with military precision, and rigid obedience to the leader. Above all, at either end, they involve more than momentary or hostile connection with sedentary life: for caravan folk, like sailors, necessarily spend part of their time in harbour, waiting or seeking for cargo. Moreover wives, families and grazing flocks can no longer accompany the men on their journeys: for in speed there is safety as well as economy, and the caravan carries no non-combatants nor useless mouths to be fed on the road. To provide for these, the desert-ports become regular cities, controlled sooner or later by the desert folk, and to feed these cities, territory is acquired and cultivated. Best of all for these purposes is an oasis just within the desert margin where a snow fed stream from the hills is strong enough to flow out into the waste; such is Damascus. Or the desert may touch a navigable river as at Berber in the Sudan; or the sea as at Suakim the termination of the road from Berber.”¹ Such a

¹ Myres, *The Dawn of History*, p. 107.

desert route was the way from the desert port at Kosseir on the Red Sea to Koptos on the bend of the Nile which brings it nearer to the Red Sea than at any other point.

So Egyptian civilisation, isolated by the desert, receives a new impetus to progress through the medium of the desert highways and the desert traders. Desert ports arise on her frontiers mixing the two peoples. Merchants and travellers pass between the rising civilisations. Goods, inventions, crafts, language, knowledge, arts, and ideas are freely exchanged. Ambitions, too, are bred and, where trade has opened the way, armies follow. The land bridge of Syria linking the Asiatic and African civilisations becomes the battle ground of contending nations. Egypt, the Hittites, Assyria, Babylon and Persia march and remarch their armies across its highways to conquer and hold as a golden tributary prize the richest trading route of the ancient world. So by trade and conquest the world advances, and civilisation spreads.

As Egypt felt the friendly and hostile influences of the desert, so she felt friendly and hostile influences from the sea. The desert nomad directed her land trade, and the sea nomad her sea trade. As trade became established between Babylon and the East on the one side and the Mediterranean Lands and the West on the other, Egypt's position linking the Eastern and Western sea roads became of the first importance. Sea trade is much easier and cheaper than land trade, especially if the land trade be over desert and arid grass lands, so the route by Egypt rose to the first rank. Had Egypt been a sea power she would have occupied an exceptional position for developing sea trade. She was, however, an agricultural power and alien to the sea. Her position linking the sea routes was, therefore, exploited by those powers more at

(iii) Egypt the
Link between
Western and
Eastern Sea
Routes.

home on the seas, just as her land trade was exploited by the desert traders; and just as desert traders became invaders, so sea traders became conquerors.

In early days Phoenician and Greek used her as the stepping-stone to Eastern trade. A Greek emperor founded Alexandria, which became the emporium for Eastern goods and a great centre of Greek philosophy and culture. When Rome succeeded to the command of the Eastern Mediterranean, Egypt became one of the granaries of the Roman Empire. On the fall of the Empire she fell to the invasion of Arab and Turk, and on the renaissance of industry and trade Venice and Genoa succeeded to Rome. The discovery of the Cape Route to the East lost Alexandria her supreme position, but Egypt again came into the orbit of Western European politics when Napoleon invaded her as the stepping-stone to India and an Eastern Empire. The construction of the Suez Canal by the French engineer De Lesseps brought the Mediterranean route to the East again into the first rank, and gave Egypt once more the key to it. So once again Egypt is in the whirlpool of world trade and world policies. She reaps its result in added wealth and importance, but in political subjection. The sea route to the East must be secure for the sea peoples and consequently Great Britain as the leading sea power secures the canal and while giving Egypt internal freedom controls her foreign affairs. Egypt's fate, therefore, is to lie between the desert and the sea, to be subjected to the influences of both, and to suffer control from whichever is the stronger.

After the occupation of Egypt by the British the same problems faced the new potential rulers as faced the rulers of Egypt throughout its whole history. To secure and increase the prosperity of the country the Nile had to be further exploited, and all the resources of British engineer-

ing science were called to the task. Great dams were erected to conserve the flood waters, irrigation canals were constructed, and large areas of swamp in the Delta were drained. As a result "the old areas have been provided with a more ample and a more assured supply. The conversion of half a million acres in Upper Egypt from basin to perennial irrigation has enabled cultivators to grow the more valuable crops of cotton and sugar in conjunction with clover and rice, and to reap two harvests in the year where before they reaped only one. And, finally, the cultivated area of the country, as a whole, has been enlarged already by an accession of fresh land equal to one-fourth of the cultivated area of thirty years ago; while its extent is being still further augmented by the reclamation of new or abandoned tracts in the Delta."¹ In consequence, the enormous national debt has been considerably reduced, the annual drain of taxation decreased, the population doubled, the cotton crop, the basis of Egypt's prosperity, improved in quality and trebled in quantity, the cultivation of the sugar cane introduced, and in a fair way to being a staple product, and general agriculture improved. The impact of new ideas from western culture, education and methods of government has raised the standard of living, spread culture more widely over the population by improved education, and stimulated in the people a stronger sense of unity and of pride in nationality which expresses itself in increasingly insistent demands for independence.

The second problem of the desert, too, faced the British immediately after their occupation of the country. The Mahdi, inspired by religious fanaticism and a desire to free his country, the Soudan, from the hated Turk, proclaimed a

¹ Worsfold, *The Future of Egypt*, p. 152.

Holy War, and Egypt, after the annihilation of her armies and the massacre of her distant outposts, could for a time barely hold her valley frontier. Western science and organisation under the direction of Lord Kitchener met the desert danger mainly by the help of the railway in overcoming the obstacles to desert travel and desert warfare. The Soudan was conquered and brought within the pale of civilisation and western methods of agriculture and commerce.

The third problem of the route to the East still faces the British and hinders their complete withdrawal from the country. After setting Egypt on her feet and helping her forward in the way of agricultural and commercial prosperity and to a juster and more economical system of government, Britain might well have been content to withdraw and leave her to manage her own affairs. But the key to the Eastern Route is of world importance, and Britain remains to secure it in the interest of her own and of world commerce. However much, therefore, Egypt may secure independence in her internal government, Britain cannot admit any foreign interference in Egypt that will place the way to the East in danger.

Here, then, in bald outline is the connection between physical conditions and Egyptian economic, social and national life and development, and it is this great argument that should form the central thread of the human geography of Egypt as we present it to our pupils, but illustrated with more concrete detail from the growth of its civilisation and the history of its foreign relations. In a similar way and in a similar spirit should the teacher present other areas of the world and their peoples to his pupils. He should cast aside the purely academic and professional outlook of the geographer, especially of the physical geographer, and grasp the internal and foreign

problems of a country and its people as they appeal to an intelligent educated man of the world. The ordinary man seeking enlightenment does not go to the text-book on geography, but rather to such books as Colvin's *The Making of Modern Egypt*, Traill's *Lord Cromer*, Milner's *England in Egypt*, Boulger's *Life of Gordon*, and Churchill's *River War*. From these books he will imbibe geography, illumined and illustrated by human life and problems. So, too, must it be for the teacher in presenting geographic problems to his pupils. His professional and academic knowledge of geography, economics, and history will play their part in giving him a clearer insight into the vital connections between physical circumstance, economic activities, and historic development of human life. For the pupils the human problem is the most important. They should imbibe their geography as an intelligent light on the problems of human life and activities and of their development.

4. There is, however, a certain kind of physical geography that should be taught because of its influence on the outlook of the human mind on life and thought generally. The details of physical features are facts of little importance, except to one especially interested. Their value is local and temporary. There are, however, certain broad conceptions about the world and its relations to the universe, its origin and evolution, that affect mightily our whole thought about ourselves and the universe. They partake of the nature of a Natural Philosophy. These conceptions must be included in any serious scheme of geography study if it is to be cultural. They should be really part of the cultural course on Physical Science; but the close connection between the physical and the human in geography and the force of tradition have ruled that they be included in the geographic instruction. This course on physical

geography should comprise the conception of the solar system and its relation to the other stellar systems, the position of the Earth in the Solar System and its movements, the phenomena of Day and Night, the seasons and eclipses, the formation of the earth, mountains, rocks, surface sculpture, rivers and river action, the conditions determining climate, winds, currents, tides, etc. As in the teaching of Physical Science, ample observations of the phenomena of everyday life and progressive experiments to probe into the what, how, and why, of familiar events will lay the foundation of the pupil's knowledge; but in the later stages of the pupil's school life, more reflective thought and bolder flights of the imagination should build up broad conceptions and theories that will unify his thoughts of the world, the universe, and their evolution.

Pupils as a rule are kept too long in the stage of facts, observations, and experiments. In the building up of knowledge for the conduct of life, ideas born of and expanded by imagination and sympathy are of greater value in giving vision and insight than the facts accumulated by observation and experiment, which furnish but the basis of the structure. In the emphasis, therefore, that the teacher rightly places on observation and experiment in the early stages of instruction, he must not forget the part played at a later stage by constructive imagination in formulating those broader ideas and conceptions that unify knowledge, and bring a wider outlook and generous ideals to the conduct of life on its intellectual, social, and practical sides. It is only right, therefore, that pupils who stay at school till they are seventeen or eighteen years of age should have the beginnings of a natural philosophy as, too, through the teaching of history and geography, they should have the beginnings of an economic, social, and political philosophy.

5. The second important factor influencing the life and development of a people is their economic relations with other peoples. There is little need to emphasise our present dependence for the satisfaction of our wants on the products of every country in the world. Every fact of daily life—our food, clothing, dwellings, and all the implements of the household and of industry—bears witness to it. What, however, are not so fully realised are the extensive and complex organisation of commerce that has developed to facilitate the world exchange of products and the effects of commerce on the spread of civilisation and the relation of peoples to each other.

We see the organisation of commerce in a simple form in the interchange of goods between an industrial town and its neighbouring agricultural district. Corn, meat, fruit, dairy produce, and the raw material for industry in skins, tallow, wool, etc., from the country are exchanged for clothing, implements, and utensils that are manufactured in the town. To facilitate this exchange there grow up market towns with their seasonal markets for corn, cattle, sheep, and wool, their merchant stores and warehouses, banks, lawyers, telegraph and postal services, and all the material organisation of transit in roads and carriers, railways, goods trains and goods depôts, canals, barges, and staithes. The market town acts as the nerve centre of the commercial life of a district of varied occupations and products to bring all the different agricultural and industrial activities into economic relations with each other. It is the heart which circulates throughout the whole area a vitalising stream of commerce on roads, rail, and canal. Its merchants, traders, and transport workers, producing nothing themselves, living on the produce of

others, act the part of the red corpuscles of the blood, the middlemen and carriers of the life-giving stream to the whole body politic.

So, too, in the larger sphere of world commerce, but in a degree far more extensive and complex. The arteries of trade are the great land and ocean routes that link ocean to ocean and continent to continent. From the main arterial trunks branches and sub-branches ramify in all directions so that every outlying district can be nourished by the life-giving stream, and can add its quota to the nourishment of other districts. Each area has its commercial centre for controlling the collection and distribution of produce, and on the great arteries lie the great centres at a plexus of trade routes, or at the great terminal stations where continent meets ocean. If our pupils are to understand the economic interdependence of the peoples of the world, they must grasp the main outlines of this extensive and complex arterial system of world commerce.

Furthermore, trade produces very far-reaching consequences in the sympathetic or antagonistic relations that grow up between peoples, and leads to striking historic events and developments. From earliest times the trading impulse stimulated exploration and discovery, the opening out of new lands and their exploitation by settlement, factories, or conquest, which led to the spread of more progressive economic, social and political ideas and institutions in the regions of primitive life. Its effect, too, between regions of different cultures was to stimulate the exchange of ideas and inventions, and to produce, under the spur of competition, new ideas and inventions and more effective organisation of industrial and commercial activities. Nor has the competition for trade and foreign

(ii) **Effect on
Historic
Development.**

markets and possessions been limited to economic effects. It has been as productive of international strife as racial and religious feuds, and not infrequently have the struggles so brought about been decisive factors in determining the main line of the world's advance.

Such results of the trading impulse can be illustrated from History in a thousand ways. The explorations and discoveries of the Phoenician and Greek traders, their numerous colonies and trading stations throughout the whole Mediterranean region, their conflicts with each other, and later with the rising power of Rome, their decisive influence on the spread of civilisation over the whole of the Mediterranean region, fully illustrate the far-reaching effects of the trading impulse in opening out new parts of the world to civilising influences, and to the spread of a higher order of social and political life into new regions.

This illustration is paralleled in the effects of the trading impulse which led to the discovery of the Americas and the Cape Route to the East. Following the discoveries came oceanic world trade, settlement of new lands, and the stimulation of regions of different cultures, as in India, Persia, China, and Japan. Competition for world trade and possessions resulted, as in the earlier development of the Mediterranean, in national conflicts. Spain, Holland, Portugal, France, and England competed and struggled in every part of the world for supremacy in trade and possessions; and the results of these conflicts decided the future development of the new continents and of India and the East. The industrial era of the nineteenth century intensified the struggle. In Western Europe and in America industrial nations arose, and the keener competition for trade brought every region of the world within the orbit of their economic and political

activities. All the waste spaces of the temperate region were occupied and settled. Tropical and Mediterranean Africa was partitioned among the competing nations. Areas of static, inert, or retrogressive civilisations were divided into spheres of influence. The Monroe doctrine alone saved Central and Southern America from a similar fate, but here more insidious financial control was substituted for direct political influence. Japan emerged from mediaevalism in one mighty bound under the stimulus of western ideas and methods. The culmination of the struggle for world trade and world possessions was reached in the Great War, by which Germany hoped to secure by military power that "place in the sun" which had been denied her by her historic development, and by the limitations of her geographic position.

Such are some of the effects of the trading impulse on the relations of the peoples of the world to each other, and it is well that our pupils should be introduced to the main outlines of those problems sufficiently illustrated by appropriate specific examples.

6. The third factor of importance in the life of a people is their historic development. No people can cut themselves off from the past, least of all in their social and political life. We are the heirs of all the ages. To understand a people, then, we must understand how they came to be what they are, in, at least, the main lines of their evolution.

One most fatal objection to our present method of studying geography is that it shuts the pupils' eyes to the vision of human advance and progress on the earth. It deals with the world of to-day, and gives no conception of man progressing in his mode of life, advancing in his power to conquer nature's resources and overcome nature's hindrances to 'good living,' and spreading his hard won

civilisation continuously over the earth. We treat the world and its peoples, at least in the geography course, as if they were fixed for all time. The world, however, is not static. Man is individually and collectively a dynamic power, possessing the forces of progress by which he can change his whole mode of life and mould his environment to his needs. From a hunter roaming the forests he can become a herdsman chained to his flocks. From a nomadic wanderer he can become an agriculturalist tied to the soil. He can, too, change the whole face of a continent by draining marshes and clearing forests. He can make desert places smile with corn-fields and vineyards, cover the land with cities and towns, and a network of roads and railways, join seas and oceans by canals, and pierce his way beneath mountains, and in general bring a human order out of chaos, and learn to 'live well' and to thrive in an increasingly efficient way. This dynamic power of progress, of evolution in his conquest of nature's resources and in his power to 'live well,' is the most fundamental fact in man's life on the earth.

The idea of evolution brought about profound changes in our thought about plants and animals. Applied to history it revolutionised our conception of man's political and social institutions. It remains for geographers to give full play to it in their study of the Peoples of the World, and to set forth and explain the broad lines along which man, from a primitive life in which he lived on his immediate environment and largely at its mercy, has established economic and social order and institutions, advanced them and spread them step by step over the world until the present order of civilisation has been reached.

CHAPTER III.

THE SCHOOL COURSE.—JUNIOR.

1. The course on the Peoples of the World should, then, be designed to show the threefold influences of physical environment, economic relations between peoples, and historic development. As in other studies it will be arranged in two successive stages:—a preparatory introduction for junior pupils up to the age of about twelve years and a Senior stage for pupils beyond twelve. The Junior Course should deal with the Peoples of the World in an interesting and simple way suited to the young. It should be largely illustrative, depicting man's life and work, his dress, food, dwellings, occupations, trade, means of travel in various regions of the world in a concrete descriptive fashion by means of story and narrative, illuminated by pictures and readings of travel and adventure. In a similar way through abundant examples of the work of communities in different regions and the manner in which the pupil's own needs and those of his household are supplied he will gain preparatory conceptions of his economic dependence on the work of the world and of the commercial organisation that serves his needs. The historic development of man's life will form a prominent part. Every topic of life and of work will provide opportunity for illustrating man's development from primitive types to those of modern civilised times. The Senior Course should present the

Peoples of the World for deeper, more connected and continuous study. Its presentation should be marked by broader vision, by increasing insight into causes, by an appeal to reasoned explanation, and by a more rationally connected development of the course. It should progress in such a way as to imprint on the imagination and understanding the essential features of the peoples of the world as they are to-day, and of the economic racial and international problems that are of interest and importance.

2. The simplest topic of human life and work for the child is that with which he is most familiar, viz. :—the life of the family in the home. He has daily experience of his own home life, its needs and how they are met, its work, the duties of his father and mother in providing for and looking after its well being. Hence, the first geographical topics he can most fully imagine and interpret by comparison and contrast with his own experience are those of the daily life and occupations and homes of peoples in other lands. The simple concrete externals of life only should be dealt with at this early age such as dress, dwellings, food, work, recreations, implements and utensils of the household and occupations, modes of travel, and so on. The historic aspect should be introduced by beginning with the life of early man, *e.g.* the cave men, forest hunters, shepherds of the plains, and primitive fishing people. The course could then present to them the more striking and interesting of present day types ranging from primitive to more civilised examples.

The following are examples of topics appropriate at this stage:—The Eskimo of the Snow and Ice Regions, The Laplanders of the Tundras, The Arabs of the Desert and Oasis, The Kirghiz of the Steppes, The Kaffirs of

The Junior
Course.
Life and
Homes of
Man in
Various
Regions.

the Veldt, The Forest Peoples of the Congo and Amazon, The Island Peoples of the Pacific, The Hindu Peasant of the Ganges, The Hillsman of the Indian Frontier, The Chinese Peasant of the Hwang-ho, Dutch Fen and River Life, Norwegian Fiord and Island Life, An Alpine Farmer, A Russian Peasant, A Fisherman on the Dogger Banks, A Farmer on an English Farm, A Shepherd of the Fells, A Miner, A Factory Worker, An Iron Worker, A Ranchman, A Lumberman, A Trapper and Pioneer.

Having some ideas of a variety of regions, peoples and occupations the pupil may now proceed to gain some conceptions of the dependence of his own home life on the work of other peoples. Every article and implement in use in the home will provide a starting point for lessons on life and work in other regions. The lessons should show in simple outline 'pictures' of the region the article comes from, the work of the people who produce it, how it is manufactured and comes to England. A large globe and wall map of the world should be in constant use, and each pupil should have an outline map on which he can register the place of origin and fix some main centres of production, of manufacture or of trade.

The following are suggestions of suitable topics:—

The House.

Timber:—Swedish forests and lumbering, timber mills and ports; the port of Hull, its docks and timber yards.

Slate:—A Welsh slate quarry and the making of slates.

Stone:—A stone quarry and the working of stone.

Bricks:—Brick making.

Lead:—The lead mines of Durham or Derbyshire and the uses of lead.

Iron:—Iron mining, smelting and working in the Cleveland district.

Food.—The topics of bread, meat, butter, cheese will provide a series of lessons on a variety of topics *e.g.*:—

(1) Life on an English corn and dairy farm throughout the year, the flour mill, the bakery, cheese and butter making.

(2) A Danish farm and the butter and cheese factory.

(3) A Swiss farm and condensed milk.

(4) A Canadian wheat farm, grain warehouses, elevators, and ships.

(5) A sheep farm in Cumberland, the shepherd's hamlet and the market town.

(6) An American cattle ranch and meat packing in Chicago.

(7) An Australian sheep farm and frozen meat.

Tea, coffee, sugar, cocoa, rice, oranges, bananas, dates, etc., will provide starting points for such lessons as:—
A Ceylon Tea Plantation, Coffee growing in Brazil, Spanish Orange Groves, etc.

Clothing.

Wool:—An Australian sheep farm, and the history of the wool from the shearing, packing, and transport to the cleaning, combing, spinning and weaving of it into cloth.

Cotton, silk, linen, leather suggest other topics to be treated in a similar way.

Implements.

Pottery, Cutlery, Household Utensils of Iron, Aluminium and Copper suggest a variety of lessons on minerals, mining, manufactures and industrial conditions of life.

The historic development of man's life on the earth should find a frequent place in this part of the course.

For example, the lessons on Dwellings could be extended to show their development from primitive dwellings in caves, trees, and on lake and river piles to the modern house; and the range and variety of dwellings of to-day could be illustrated by types in various regions of the world to show how man meets the conditions of his life by adapting the materials at his disposal to the needs of the climate. Similarly with the treatment of clothing, implements, and pottery, the pupils will expand their vision of man's varied power of adaptation if they learn something of the primitive modes of spinning and weaving, of the early implements of flint, stone and bronze, and of the ingenious inventions and contrivances of primitive hunting and pastoral man.

The above topics will supply more than ample material for pupils up to the age of ten years. The pupil will begin to be familiar with the globe and the map of the world, and to fix in his mind the relative positions of its main regions, and the kinds of life and produce on each. The topics will give him plenty of scope for expression work in registering the main facts and places in maps, in drawing, in handwork in paper cutting and cardboard and in the simple dramatisation of scenes from the life of people.

3. At ten years the pupil's widening experience of life and of human activities will permit of his taking a wider view. At that age he is more aware of the social and industrial life outside his own home, and his vision has broadened so that he can begin to grasp the idea of an economic community made up of a number of related occupations each dependent on the other. He can grasp that the farmer and his labourers, the factory that supplies his agricultural machinery and implements, the blacksmith

**Economic
Communities
in Various
Regions.**

and joiner that do his repairs, the miller, baker, and confectioner, all contribute to the provision of bread and make up one industry. He can, thus, begin to gain a clearer insight into the interdependence of the life and work of individuals and groups of individuals within a community. Hence the course from ten to twelve years can begin to consider examples of economic communities—pastoral, agricultural, mining, industrial and commercial—with their varied inter-related occupations. To give a more organised conception of historic development it would be well to arrange the course at this stage to exhibit progressively the main lines of man's economic development from the collecting and hunting stages, to the pastoral and agricultural, and thence to the industrial and commercial stage.

The following are suggestions for such a course:—

I. Hunting Communities.

We can present to the child first the primitive hunting family in the forest, its shelter and clothes, the work of the father in hunting and of the mother in domestic duties, and then pass to a more highly developed type of hunting community such as the Red Indian Forest Tribes. The Eskimo and the equatorial forest hunters, the Hudson Bay Company and the work of the trapper and fur trader may be taken as types of primitive hunting communities existing to-day. More advanced forms of hunting communities are seen in fishing districts, and the fishing and fishing towns of the Coast of Yorkshire may be taken as a type. The topic should be developed so as to show the various modes of fishing, the life on a trawler, the fishing port, selling the fish, curing, salting, and packing, and the transport of fish. To widen the pupil's outlook on fishing as a world wide industry, fishing communities in various parts of the world can then be studied, *e.g.* :—

Fishing off the Norwegian Islands and Fiords; Fishing off the Newfoundland Banks; Salmon Fishing and Packing on the Fraser River, Columbia; Whale and Seal Fishing; Pearl and Sponge Fishing; The Eiderdown industry of Norway.

II. **Pastoral Communities.**

Primitive.—Abraham and Isaac; Kirghiz on the Steppes; Kaffirs on the Veldt.

Civilised.—Shepherd life on the Cumberland Fells; ranching on the Western Plains of N. America or the Argentine; sheep farming in Australia; poultry farming in California; pig keeping in the Balkans; ostrich farming in S. Africa; pastoral life in a Norwegian or Swiss Mountain Country.

III. **Agricultural Communities.**

The "Hoe" Peoples of Africa, and the "Spade" Cultivators of the Mediterranean contrasted with the "Plough" Peoples of the Grassland Margins.

Early methods of irrigation and terrace culture in Palestine and Mediterranean Lands.

Farming in the British Isles.—Corn and root farming, dairy farming, fruit farming.

Farming Communities throughout the World.—Canadian wheat farming; Danish dairy farming; Californian or Australian fruit farming; Virginian tobacco planting; cotton plantations in Egypt or America; Chinese and Indian rice growing and tea planting; tropical rubber plantations; French vine growing; Spanish oranges; Jamaican bananas; Arabian dates; etc. Opportunities should be taken to show how arid regions are brought under cultivation by conserving a seasonal rainfall by means of dams and reservoirs and distributing it to fertilise an area by means of irrigation canals.

IV. **Industrial Communities.**

The making of implements and weapons in the stone, bronze and early iron ages.

The early industries of spinning, weaving, pottery and brick making.

Typical Modern Industries.—Lancashire cotton; Yorkshire wool; cutlery at Sheffield; hardware at Birmingham; locomotives at Leeds; shipbuilding on the Tyne; pottery in N. Staffordshire; lace at Nottingham; coal-mining in S. Wales. Districts in other parts of the world noted for these industries should be introduced in brief outline.

The pupil's view of a variety of industries should be widened by taking a number of well known industries in various parts of the world, *e.g.*:—Lumbering, saw mills, and paper manufacture in Sweden and Canada; meat-canning and packing at Chicago; silk making in China and France; lace manufacture in France and Belgium; glove and leather manufacture in Germany and Austria; carpet making in Persia and India; Chinese pottery; beet sugar manufacture in Germany; flax and the linen industry of Ulster.

V. **Commerce and Commercial Communities.**

Typical Modes of Travel, Routes, Markets, and Ports.

1. The desert and the camel caravan, *e.g.* Damascus to Bagdad.
2. Mountain travel and the pack horse and mule train, *e.g.* Peshawur to Bokhara.
3. Travel on the plains, *e.g.* the Russian Plain or the African veldt and the bullock waggon.
4. Travel on ice and snow; the dog and reindeer sledge.
5. Forest travel; the Congo and the human porter.

6. River travel by canoe, barge and steamer, *e.g.* the Mississippi, the Ganges and the Rhine.
7. Transport by canal, *e.g.* the French canal system.
8. Lake transport, *e.g.* Quebec or New York to Chicago.
9. Sea trade, *e.g.* London through the Suez to Bombay and Australia.
10. Railway transport; the making of a great trans-continental railway and its results, *e.g.* the Canadian Pacific Railway or Trans-Siberian Railway.
11. Air travel; the aeroplane and airship and their use in the transport of passengers, mails and goods.

The above topics will provide opportunities for presenting to the pupils every important type of travel, of trade route, of trade mart and port, of examining their geographic position and of noting the nature of a large port and its docks, and a railway depôt and its goods yards and sidings and the various appliances and conveniences for the rapid handling of goods.

The course outlined above can well be covered before the age of twelve years, if types be judiciously selected from the topics suggested. By it the pupil will have gained an insight in an increasingly organised way into the main types of regions and of the life and work in each region. He will have grasped in a concrete and illustrative way the interdependence of peoples through the channels of world trade and the main lines of man's development on the earth. From the very beginning he will have obtained a World Outlook and he will maintain this vision throughout. Yet throughout the course he will be brought in every topic to the study of the life and occupations of people in his own district and country. The course pre-

pares the way in an interesting and illustrative fashion for a still wider and deeper consideration of the world and its peoples in the Senior Course from the more organised point of view of Natural Regions, Nations and their development and expansion.

CHAPTER IV.

THE SCHOOL COURSE.—SENIOR.

The Senior Course. 1. The planning of the Senior Course is a more difficult problem than that of the Junior Course if due weight is to be given to each of the great influences on human life. Schemes will vary according as one or other of them is made the fundamental basis. Three possible schemes suggest themselves; one based on the Physical conditions, one on Natural Regions, and one on Historic Development.

Continent Method. The first is the mode of treatment that is usual at present. It consists in studying each of the continents in turn and completing the course by a general survey of the world so as to bring out the main regions of industrial, agricultural, and pastoral life, the main centres for the collection and distribution of products, and the great continental and oceanic routes and their marts and ports for the exchange of goods. Each continent is considered first in regard to its world position, its size and relation to surrounding masses of land and water, its general surface and coast features and river system, its natural climatic and vegetative regions. On this foundation of physical conditions the pupils can intelligently reason or interpret its agricultural and pastoral occupations and products, its in-

dustries, the extent and distribution of its population, the natural routes of trade by river and mountain gap, the position of its towns and ports, and the nature of its exports and imports. Such a treatment obviously emphasises the physical conditions and the economic use made of them by human effort. The historic development, the racial and political problems fall into the background and, if taken at all, become casual and incidental.

This mode of treatment has, however, certain advantages. It is orderly and systematic, and has been intelligently presented in many good text-books. Further, the work done on one continent trains the pupils in the general method by which the problems of the other continents should be approached. It has, however, its weaknesses. As mentioned above, the problems of human development on the earth and expansion over the world become incidental and not fundamental. They cannot be treated in any organised way so as to show a progressive advance and expansion of human civilisation. Racial movements and jealousies, ambitions for national and economic expansion, the political problems of frontiers, of commercial routes, and of competition for foreign markets fall into the background. A further weakness lies in the repetition of the same method of studying a continent year by year. The method by which the continent first studied is unfolded is that by which the last studied is approached. There is no advance in outlook, in insight, or in the complexity of the physical or human problems. As the pupils study Africa, so they study South America and Australia. The scene changes but the method and ideas remain the same. Frequently, indeed, the pupils are faced first with the most complex problems of Europe, and end by studying the much more simple ones of Australia. If the

continental arrangement of study is adopted the reverse order surely would be advisable.

2. A second mode of arranging the scheme would be to base it frankly on the conception of Natural Regions. Such a course would obviously begin with a consideration of the world as a whole. Before proceeding to the Natural Regions it would be well to fix in the pupils' minds the main divisions into oceans and continents, their relative sizes and positions, and the outstanding features of contour and drainage. As we have seen, mountains and rivers are features that determine in a large measure the movements of peoples and trade, and the routes by which an area will be penetrated from the ocean or from a neighbouring land either for exploiting the country economically or for hostile aggression. A considered treatment of climate and vegetation would precede the classification of the areas of the world into the main types of Natural Region, and then would follow a detailed study of each type. Each region, through its important illustrative examples, would be considered so as to bring out the physical conditions in their bearing on human life and occupations, and on the economic social and political development in the region. It would be advisable to begin with the regions exhibiting the simplest and most self-contained human life and activities, and proceed through intermediate types to those that show the highest economic and political development. Thus the order of treatment would be somewhat as follows:—

- (1) Arctic regions and hot deserts.
- (2) Tropical forests and monsoon lands.
- (3) Temperate grass lands.
- (4) Regions of Mediterranean climate.
- (5) Temperate forests and park lands.

In dealing with each of these types opportunity will be given for a progressive treatment of man's civilisation on the earth. The Arctic regions will show the most primitive type of nomadic hunter and collector. The desert lands will present a type more advanced both economically and socially, partly settled in cultivated oases, partly nomadic, trading between the civilised fertile fringes and open to their influence, but hostile to them in frequent raids and occasional invasions. The temperate grass lands will show a similar primitive type of nomadic pastoral, and similar relations to the settled communities on their border. The possibilities for social and economic development of a grass land area will be seen in the study by the pupils of the American plains or the South African veldt under the influence of civilised rule, and industrial inventions such as machinery and the railway. The Mediterranean region will provide opportunity for studying the birth of civilisation in Egypt, the rise of organised trade on land and sea, and the progressive spread of an economic and social civilisation over the Mediterranean by exploration, settlement, and conquest and trade. The North Temperate region will show the latest stage of man's progress in the rise of organised industry and the industrial state and the accompanying expansion of its trade and political influence over the less developed regions of the world.

The course should end with a survey of the world as a whole similar to that of the first scheme, but with a stronger emphasis on the economic and political relations of the industrial states of the temperate regions to the agricultural and pastoral regions of the rest of the world. The outline suggested for the climax of the third scheme would be a suitable one (see pp. 52-5).

3. A third mode of arranging the scheme is to base it primarily on the historic development of the social and economic civilisation of man and its spread over the world, particularly with respect to the growth and expansion of Western civilisation. Beginning with primitive life in various regions the pupil would study the conditions and state of human existence before the dawn of settled stable communities. He would then proceed to consider how a settled state first arose, and the development that followed in agriculture, industry, in social and political institutions, and in the arts. As he followed the process of expansion he would see communities coming into touch with each other and influencing each other's progress through trade, exploration, settlement and conquest. He would see trade routes, trading posts and ports established, primitive areas opened up to civilising influences, forests cleared, marshes drained, arid wastes irrigated, improved agricultural methods and implements introduced, animals and plants useful to man taken to new regions, towns and cities for trade, government, and defence erected, and a new order of life taking root. Instead of studying the final results of thousands of years of human efforts, he would watch the progressive accomplishment of it from its beginnings to its climax in the modern world. Such a course might well be entitled the Rise and Spread of Man's Economic and Social Civilisation. Obviously it should have close connections with the course in History. It should run parallel with and in close correlation with the course on the development of the political communities of Western Europe. The Geography course would emphasise the geographic conditions and influences, and the economic development; the History course would concentrate on the strictly human and political movements and the

great leaders of social, political, and intellectual progress.

There is hardly space to give more than an outline of the details of such a scheme. The following is offered as a possible line of development.

A.—Primitive Types of Life in the Various Regions of Europe (including the Mediterranean Area).

Desert (Arabia and Sahara).

Grass lands (Eurasian Plains).

Forest (Germanic Highlands).

River and Marsh (N. European Coast Plain).

Mountain (Alpine Lands).

Sea Inlet and Islands (Grecian Archipelago and Norwegian Fiords and Islands).

B.—The Rise and Fall of Civilisation in the Mediterranean.

(1) The rise of settled stable communities and of economic and social civilisations on the fertile river plains of the Nile and Euphrates; the geographic conditions favourable to the rise and protection of a settled state, and the advance of industry and the accumulation of wealth.

(2) The development of land trade between Egypt and Babylon over the deserts and the land bridge of Syria; the establishment of trade routes, trading centres, desert ports; the advance of industry and rise of centres of industry; the stimulus to foreign aggression; the relation of desert to plain peoples (*e.g.* Arabia and Babylon) and mountain to plain peoples (*e.g.* Judaea and Canaan).

(3) The Mediterranean Sea Peoples and the rise of sea trade; the exploration of the Mediterranean and the Euxine; the settlements and rivalries of the Phoenicians and Greeks; the struggle for sea power between the Greeks and Phoenicians and between Carthage and Rome; the

geographic position of ports and settlements relative to sea routes, entrances to land routes, and areas of fertility; the position of sites for defence; the comparison of the North and South Coasts of the Mediterranean in regard to ease of penetration, fertility and defence from barbaric aggression.

(4) The expansion of Roman conquest, rule and trade through the gaps in the mountain barrier to N. Europe; the rise of trade routes, and cities for defence, government, and trade, and the reason for their position; the influence of mountain, rivers, and sea on expansion; mountain gaps and gap towns; the nature of frontiers and their defences.

(5) The incursions of the Barbaric tribes from the forests, plains, deserts, and northern sea lands.

C.—The Re-birth of Industry and Trade and the Rise of Nationalities.

(1) The re-birth of industry and trade :—

(a) In the Mediterranean: the industrial cities of Lombardy and Tuscany and the commercial cities of Venice, Genoa, and Pisa, and their relation to the trade routes to the North and to the commercial centres of the East.

(b) In the North; the industrial towns of Flanders and the commercial towns of the Hanseatic league and their relations to the river and land routes of the Northern Plain and the Rhine and to the sea routes of the North and Baltic Seas.

(c) Between the Mediterranean Lands and the Northern Plain; the North and South trade routes and the chief industrial and trading centres on them.

(2) The geographical and racial factors in the rise of nationalities in :—

- (a) The areas bordering the Atlantic.
- (b) The British Islands and the Baltic Peninsulas.
- (c) The North European Plain.
- (d) The Central Plain.
- (e) The Mediterranean Peninsulas.

Here will be opportunity for considering through various concrete cases the influence of seas, mountain chains, mountainous areas, rivers, plains, inland seas, etc., on the position of frontiers, in stimulating or discouraging unity, in determining the relation of contiguous peoples to each other, and in deciding the lines of trade and the positions of centres of government, of defence and of commerce.

**D.—The Expansion of Western European Races,
Trade and Civilisation over the World.**

- in (a) North and South America.
- (b) Asia.
- (c) Africa and Australia.

It is impossible to indicate fully how each of these topics should be expanded. It will be sufficient to illustrate the mode of treatment by taking North America as an example.

(1) The discoveries of Columbus, Cabot, Cartier, Champlain.

(2) The settlements in North America.

(a) The Spanish in Mexico to exploit the gold and silver mines by native slave labour.

(b) The French in the St. Lawrence and the attempt to found an empire, and to exploit the fur trade; exploration of the rivers and lakes, the establishing of trading, military and religious posts; the discovery of the portages to the tributaries of the Mississippi and its exploration; the colony of

Louisiana and New Orleans; the linking of Louisiana and Canada by a chain of posts in strategic positions.

(c) The English on the Atlantic Sea Board.

- (i) The New England States and the development of the fishing industries and maritime trade, position of ports.
- (ii) New York, Pennsylvania, and Maryland, the development of agricultural settlements and the Indian fur trade by the Mohawk Pass, position of towns and ports.
- (iii) The Southern States, the plantation system and slave labour, position of towns and ports.

The nature of the Alleghanies, the difficulty of its successive ridges and forests, the danger from the Indian tribes and the effect of these in limiting westward expansion would be dealt with.

(3) The struggle between English and French for the control of the Mississippi Basin.

This topic brings into prominence the importance of sea power in securing a distant colony by waging a war across the ocean. The weakness of France in sea power and the control of the sea by Britain made the fall of Quebec and of Canada inevitable.

Other topics of geographic importance are the strategic importance of the routes and gateways from the Atlantic Sea Board Colonies into Canada and the Ohio Basin. These routes and gateways are:—

- (i) The front route by the sea and the St. Lawrence directed at Quebec from Boston and Halifax via Louisbourg.
- (ii) The side route by L. Champlain and the frontier military posts from New York via Albany.

- (iii) The back route by the Mohawk Gap directed at Montreal via Albany, Oswego, and Fort Frontenac.
- (iv) The eastern gate to the Mississippi Basin by the Potomac Gap directed at Fort Duquesne via Fort Cumberland
- (4) The advance over the Alleghanies.
 - (a) The first advance by trappers, pioneers, and traders.
 - (b) The fixing of the routes through the Cumberland, Potomac, and Mohawk Gaps.
 - (c) The use of the rivers of the Mississippi plain in the westward expansion, the rise of forts and towns, *e.g.* Pittsburg, Louisville, St. Louis, etc.
- (5) The development of trade in the Eastern Mississippi.
 - (a) The Eastern gateways, the building of roads (Grand National and Cumberland), the canalisation of the Eastern Rivers to the foot of the Alleghanies; the centres of trade:—Philadelphia, Baltimore, Pittsburg.
 - (b) The construction of canals from the Mississippi system to the Great Lakes and linking it with New York, the centres of the lake trade:—Chicago, Detroit, Buffalo.
 - (c) The Southern Gateway to the Mississippi:
The French occupation of Louisiana and the agitation for freeing the outlet, the purchase of Louisiana, the development of river trade via New Orleans.
 - (d) The Mississippi system the main artery for the development of the continent with
New Orleans as the Southern Ocean outlet,
Pittsburg as the Eastern outlet to Philadelphia and Baltimore,

Chicago as the great Southern lake port and the Northern outlet to New York via the Erie Canal,

St. Louis as the centre for the distribution of river traffic,

Kansas City as the jumping off place for the Western Prairies.

(6) The advance of the white man over the Western Plains and Rockies.

(a) The arid western plains and their rivers, the mountains and plateau deserts.

(b) Trappers, explorers of the American Fur Co. and the establishment of trading ports at suitable river stations.

(c) The fixing of the trail to Spanish Mexico via Santa Fé and Mexican trade.

(d) The Spanish and Indian Wars and clearing the way to the West.

(e) The discovery of gold and the rush to the West.

(f) The development of the Pacific Coast Plain.

(i) Through lumbering and cattle and sheep grazing.

(ii) By irrigation and corn and fruit farming.

(iii) By manufacturing industry.

(g) The development of the plains.

(i) The early cattle ranches.

(ii) The advent of the railway and the use of irrigation.

(7) The Industrial Era in America.

(a) The coal and iron fields of U.S.A. and the rise of manufacturing areas.

(b) The advent of the railway and the linking of the East to Centre and Centre to West and North to South by rail and the great railway centres.

- (c) The chief industries of the U.S.A. and the conditions that determine their nature and position.
- (d) The development of oceanic trade and of the Atlantic and Pacific ports, the linking of the Atlantic and Pacific by the Panama Canal.

E.—The Industrial Era and the Rise of Great Industrial States and of World Empires.

The final stage of the course, as in those of the first two schemes, should seek to give the pupils an understanding of the geographic basis of the economic and political problems of the world as it appears to-day. The industrial era has brought about great changes both in the internal organisation of the industrial nations and in their relations with each other and with the regions that are mainly agricultural and pastoral. The world of to-day is an economic whole as it never was before. No country can shut itself off from economic and political relations with other countries, and the main centre of the ferment is the rivalry of the great industrial nations. Every country and area is brought into the orbit of their economic and political tentacles and feels the effects of the unceasing struggle to expand trade, and to influence and control foreign markets. It is important that our older pupils before leaving school should gain some insight into the geographic and economic factors involved in these world problems.

It will be necessary for our pupils to grasp the main outlines and effects of the era of industrial expansion, the conditions that are favourable to the development of an industrial state, and the expansion of trade and of foreign settlements and conquests that inevitably follow.

The following is a suggested order of topics:—

- (1) The inventions of steam power and machinery and of the steamship, railway and telegraph and their effect

on industry and trade and in the closer relation of the peoples of the world.

(2) The development of an Industrial State.

It would be well to take two or three examples, *e.g.* Great Britain, Germany, and the U.S.A., and to compare them with respect to

- (a) Size of population, and their education in technical knowledge and skill.
- (b) Supplies of coal, oil and water power, and essential minerals.
- (c) Facilities for trade in harbours, railway routes, roads, rivers and canals.
- (d) Facilities in regard to the supplies of raw materials and to continental and oceanic routes for world trade.
- (e) Opportunities for commanding or influencing foreign markets and trade routes through colonies, possessions, spheres of influence, foreign alliances, and the like.

The comparison of the three great industrial states should bring out the great differences in their conditions, *e.g.* the dependence of Great Britain on foreign food and raw materials for industry, her superior sea position and the advantage of developing colonies and possessions; Germany's lack of ports and sea facilities and of colonies and foreign possessions, her superiority in technical education and organisation; the vast resources of U.S.A. in food and raw materials and undeveloped areas, her unique position facing the Atlantic and Pacific, her unrivalled natural means of communication in the Mississippi river system and the Great Lakes, and the great obstacle presented by the mountain and desert barrier to the thorough union of East and West partly overcome by the transcontinental railways and the Panama Canal.

(3) The Supply of Food for the Industrial Populations and of Raw Material for their Industries.

(a) The natural regions of the world.

(b) The food producing areas for cereals, cattle, sheep, rice, etc.

(c) The areas for supply of raw materials.

(i) Textiles:—cotton, wool, silk, flax.

(ii) Wood, rubber, hides, fats.

(iii) Coal, iron, copper, tin.

(4) Typical great industries and industrial areas in England, Germany, and U.S.A. compared, *e.g.* coal, iron, cotton, wool.

(5) The organisation of Commerce.

(a) The great oceanic routes, the terminal ports, the strategic positions on them for trade and defence, and the character of the trade.

(b) The great continental routes, their trade centres, the strategic positions for trade and control, and the character of the trade.

(6) International problems arising out of world trade.

E.g. The partition of North Africa.

The exploitation of equatorial forest areas.

The influence of western trade on China and Japan.

The Mediterranean sea route to the east and its problems.

The continental routes to the east and their problems

(i) to the Pacific, (ii) to India, (iii) to Persian Gulf, (iv) via Salonika, (v) via Marseilles, (vi) via Alps.

The problems of Turkey, Syria, and Mesopotamia.

The development of S. and C. America and the Monroe doctrine.

The problems of the Pacific, Japanese expansion, a white Australia, and the Panama Canal.

The above course, as has already been suggested, should be worked in close correlation with the course on European and World History. Into the course, too, must come some consideration of the problems of general physical geography, *e.g.* climate, mountain formation, coast erosion, and river action. It is obvious that plenty of opportunity through the courses outlined above is given for these topics to spring out of the human topics and to receive fuller consideration. The study of mountain peoples and occupations would naturally provide an opportunity for considering the formation and sculpture of mountain masses. The facilities and hindrances of rivers to human life and expansion will provide an opportunity for the study of river action, gorges, dale, vale, deltas, etc. The contrast between the estuary ports of the North Sea and the coast ports of the Mediterranean will suggest a study of tides and their cause. To obtain full consideration of all the main physical problems the teacher needs only to decide the most suitable places and times in the course on human life and development to introduce each of them for special consideration.

CHAPTER V.

THE DIRECT STUDY OF GEOGRAPHY.

1. The selection and the arrangement of the subject matter of geography being determined there remain the problems of its presentation to the pupils and of their learning it. Two objects are essential; a vivid realisation by the pupils of a country and its people and a clear and organised understanding of them based on an intelligent grasp of general conceptions. Out of these two aims will arise all the problems of teaching and learning.

The Teaching and Learning of Geography.

Direct and Indirect Experience.

A realistic impression of anything, whether it be an object, an event, a country or its people may be gained either directly at first-hand through personal observation and action, or indirectly at second-hand by having it presented to our imagination and our forming mental pictures of it. At first sight it would appear that no mode can be so effective as seeing a country and entering personally into the lives of its people, so that it might be said that geography can best be learnt by the direct study of a district and through travel. There is much truth in this, but not the whole truth. The value of travel has always been emphasised. During the 17th and 18th centuries the "grand tour" was an essential feature in the education of a gentleman. Its purpose was not the enjoyment of seeing a number of interesting places and beautiful

scenes, but rather to open the young man's mind to customs and culture different from those of his own land, and to overcome the narrowing effects of an insular and provincial upbringing. Bacon in his essay on Travel epitomises the educational value of travel. "Travel," he says, "is a part of education," and he goes on to outline what he considers should be observed and examined. "The things to be seen and observed are the courts of princes, especially when they give audience to ambassadors; the courts of justice, while they sit and hear causes, and so of consistories ecclesiastic; churches and monasteries, with the monuments which are therein extant; the walls and fortifications of cities and towns; and so the havens and harbours, antiquities and ruins, libraries, colleges, disputations, and lectures where any are; shippings and navies, houses and gardens of state and pleasure, armories, arsenals, magazines, exchanges, bourses, warehouses, exercises of horsemanship, fencing, training of soldiers." These are the subjects to which the young man should give personal study whereby he will gain a point of comparison to judge his own country. It is worth while noting Bacon's emphasis on the human and his total omission of the physical. The advantages of travel, then, were to gain by vivid personal experience impressions and ideas of which the 'stay at home' can only gain the faint shadow by imagination at second hand.

The value of first-hand experience should, however, not be over rated. We do not always see best through our own eyes. We tend only to see what our upbringing and interests have predisposed us to see, and the young come prepared to see little. By too close a view often we cannot see the wood for the trees, and it is only too true that most of us see best through another's eyes. A book or a

lecture by a traveller with insight and vision and the gift of presenting the essentials to the eye of imagination and to the grasp of the intellect may give us a truer picture and idea than we can gain by our own unaided observation.

Those who strenuously advocate learning through doing and seeing too frequently miss the essential factor in all true learning. We can truly learn only by thinking. We do not learn by mere seeing and doing. These give us vivid personal impressions and realistic experience. By travel, the cinema and pictures we can get these. But impressions, however vivid they be, do not make knowledge and understanding. These come only by enquiry, thought, the interplay of ideas in comparing and contrasting our impressions, and in forming hypotheses to explain their essential nature. Seeing and doing can be, and often are, an abominable waste of precious time. On the other hand they may, by able direction, be the means of giving life, reality, clearness and exactness to generalities that without the assistance of direct experience would be shadowy as ghosts. For while true learning means thinking, thoughts are not evolved out of mere words. To be fruitful and real thought must be based on, applied to, and constantly vivified by direct personal experience.

Direct experience, then, is an essential step to right understanding. It forms the only true solid basis of learning, whatever the subject of study may be. By observation and action we gain our first impressions of things, events, and people about us. But intelligence should not stop at receiving and recording impressions. Intelligence should enquire whether this impression is like or unlike that and in what way and to what extent, why this is unlike that, what this does and how and why it does it, why this happens and something else does not, why this

**The
Development
of Ideas.**

thing is used in this way and not in that, and how its use may be varied to meet this or that contingency. By such enquiry and thought, either consciously purposive or directed by no definite conscious purpose, we form ideas of the properties and qualities of things and of their relations to other things, and to effects and behaviour. We, thus, grasp what is essential in their nature and in the conditions of events and, therefore, universal, and what accidental and transitory. So we begin to build up a world of ideas formed from our world of experience, and deriving their meaning, life, and power of growth from it. They constitute an organised epitome of experience that serves to give more articulate and coherent interpretation to our experience and to new experiences. From them, too, by the permutations and combinations of constructive thought, manipulated through the medium of language, we can form conceptions of things and events unperceived by us and often unperceivable.

Our experience and the ideas formed from it are the tools by which we can mentally deal with the world of things and people outside our direct experience. It is the raw material from which we can build up images and thought. By narrative and description which refers us to the elements of our first-hand experience we can image 'pictures' of unseen scenes and events, and by our ideas we can grasp their essential characteristics, and explain their nature and behaviour.

A simple example will make clear the way in which direct experience is used in the realisation and understanding of things and events not observed. Suppose a teacher wishes to give his pupils a realistic picture of the substance mercury, and has none at hand which they can see and handle. He could give them a second-hand 'picture' by means of such a description as the follow-

ing: "Mercury is a substance like water which must be held in a bottle or other vessel, and which can be poured from one vessel to another; but, instead of being colourless and transparent like water, it is bright and shining like polished silver, and if it is held in the hand it feels as heavy as lead; if it is dropped on the table it will break into little globules, which roll about like tiny silver beads; but they are not hard like beads, but soft to the touch, and can be collected together into one large globule and poured back into the bottle." The pupils would have gained a mental picture of mercury, its appearance, and behaviour. They would have formed it by recalling their personal experiences of water, silver, lead, and beads, abstracting those elements indicated by the words of the description, and piecing them together to form a new construction. Out of their personal experience of the appearance and behaviour of water, lead, silver, and beads they, through the medium of language, form their 'picture' of mercury.

Such a 'picture,' however, is not an understanding of the essential nature of mercury and of its behaviour. To gain an understanding the pupils' ideas must be brought into play. Let us, therefore, suppose that the pupils have had experience of a number of liquids, solids, and gases, and have by enquiring thought evolved clear ideas of the nature of a liquid, why it should be held in a vessel, why it flows, and breaks into drops, how it comes to exert lateral and upward pressures, and to support bodies on its surface. Let us suppose, too, that by a similar analysis of their experiences of metals and of weight they have formed conceptions about "metal" and "density." We could now lead our pupils to understand the essential nature of mercury, and its behaviour by reference to these ideas. "Mercury is a liquid, a metal, and has a density

of 13·5," would form for them the groundwork of a conception from which, by suitable direction, they would be able to infer many general characteristics, viz. that its particles were not held together by cohesion, and hence flowed easily over each other; that the weight of mercury gives rise to lateral pressure and, therefore, a supporting vessel is necessary; that it would probably have a metallic lustre, and be a good conductor of heat and electricity; that a column 30 inches high would support the weight of the atmosphere or of a column of water over 30 feet high, etc. Such conceptions and reasonings would not form a 'picture.' They would constitute an understanding of the what, how, and why of its general nature.

It is clear, therefore, that in the study of any subject direct experience is a fundamental basis of any structure that has to be built up by imagination and thought; furthermore, that in the construction direct experience plays a double part. It should serve (1) as the basis for the imagination to work on, and, therefore, experience must provide a rich, varied, and extensive stock of impressions gained by seeing, handling, and doing; and (2) for the formation of general conceptions which will be the basis of understanding and explanation and, hence, experience must be enquired into and examined to form clear and exact ideas.

In the building up of knowledge—that is the knowledge that is a power of thought and a habit of thinking rather than a mere possession of the memory—experience, imagination and thought must work in harmonious cooperation. In dealing with new problems and situations, ideas are the mental tools of understanding. It is their work to give insight, to dissect and discriminate, and therefore they must be sharp and keen. Like the joiner's

bag of tools, the learner's stock of mental tools must be sufficient and varied, each fit for its own particular work, kept ready and ordered, sharp and keen. Their fruitfulness in new thought, however, will be in proportion to the richness of their background of real concrete experience, for ideas of themselves are mere abstractions, pale ghosts that need to be clothed in a concrete dress and be seen as living realities when the mind is dealing with real things and events.

Ideas, however, being abstractions can only exist and be used apart from the concrete experience from which they have been formed by some mark or symbol by which they can be referred to.

The Need of Language.

In thinking by means of ideas we think by the help of words or other symbols. If ideas are the tools of thought, words are the handles by which we use them. Hence, if we wish to use our tools well we must learn the appropriate language and become familiarised with it by constant use. The teaching of appropriate forms of expression and constant practice in their use is an essential part of the learning of geography as of all subjects.

2. In teaching geography, then, the direct study of a district, and practical exercises and work on it must form the essential foundation of the whole learning. Such experience must bear on human life as well as on physical conditions.

Course of Direct Study in Geography.

It must be extensive and varied, and be submitted to acute and thoughtful enquiry so as to lead to clear and definite ideas on land formation and river action, weather, climate, and vegetation, and the life and work of communities and their relations to each other. The examination of the district and the practical work and exercises should give a constant and progressive discipline in the expression of ideas in suitable forms, *e.g.* organised summaries and

essays, plans, maps, graphs, diagrams, charts, models, etc. Familiarity and power to use a language and, therefore, to manipulate ideas, can only come by constant practice both in interpreting the language into thought and in expressing one's own thought in language, whether the language be verbal or graphic.

The course of direct study will run parallel with the main course on the Peoples of the World. The district round the school will provide material for the most intensive, continuous, and progressive study of physical conditions, organisation of home life, trade and industrial activities, and of the corporate life and development of a community. Field days, school camps, and excursions to areas of special interest or value, *e.g.* the docks of a large port, a railway centre, iron works, or areas of special physical interest, will provide a more extensive range. Every field day and excursion, however, should have its special purpose and its conduct, and the exercises preceding it and subsequent to it, arranged so as to accomplish that purpose in the most thorough, intelligent, enquiring, and realistic way.

It is often thought that the direct study of geography can only be carried out in the country. This is by no means true and reflects a false conception of what geography is. It is true that surface contour, river action and vegetation can be best examined away from towns, and often town schools may be driven to many substitutes to amplify in these respects their scanty resources. Large models, sand trays and the use of a watering can, waste spaces after a storm are such means. Indeed, these are always useful to examine the results of outdoor study in a more thorough and incisive manner. The town, however, is rich to superfluity, far richer than the country, for the study of trade and industry and the life of a community.

There is a great variety of occupations, works and factories, warehouses, markets, shops, roads, railways, stations, goods yards, post offices, police stations, libraries, schools, courts of justice, and all the evidences of economic and corporate activities. These are as much a part of the study of geography as are the physical features of the district, and are the means by which the pupils will obtain experience and ideas with which to build up their understanding of the economic and political activities in foreign parts.

The study of the District, or the District Survey as it has been called, should then comprise the following topics:—

The District
Survey.

(1) **Surface Contour.**

Some area varied in character should be progressively examined to form clear ideas on hill and valley, their various forms and slopes, and standards of height, distance, and area. These should be expressed in models and maps. Large models in sand and more elaborate large models in plasticine, plaster, or cardboard, will be necessary to amplify the outdoor work by classroom study.

(2) **Rivers and River Action.**

Some local stream should provide the study for the source of a river, windings, rate of flow, erosion, sediment, sandbanks, deltas, flood plains, islands, waterfalls, etc. Almost all of these can find exemplification in miniature and, if not, a bare waste space after a rain storm will illustrate many of them. A large sand tray with sand and gravel of various degrees of coarseness and a watering can and pail can further be used to illustrate most of the features of river drainage, *e.g.* source, cutting of a river bed, erosion, windings, sediment, sand banks, deltas. The results of the study should find organised expression in map, graph, diagram, and model.

(3) **Climate and Vegetation.**

The weather and climate of the district will be the means for studying the sun and its apparent movements, varying length of day and night, seasonal variations, clouds, rain, hail, dew, variations throughout the year in rainfall, temperature and barometric pressure, strength, direction and character of winds, amounts of cloud and sunshine, etc. The most suitable form of expression is the graph.

(4) **Study of Human Life and Activities.**

(A.)—The home and its economy should be examined to find out how the structure of the house, our food and clothing, are related to our climate and our settled life. The various materials used for building houses, for food, clothing, furniture and implements and utensils should be noted and the places of origin marked on a map.

(B.)—*Economy of a Larger Community.*—Agricultural, pastoral and industrial activities form so large a part of the study of peoples that it is important for pupils to gain adequate first-hand conceptions of them. Little is known, as a rule, of the immense variety of activities carried on throughout the year on a farm and of the large variety of its products in crops and stock. The knowledge even of town pupils of industrial activities is but superficial and external. The internal organisation and processes of an industry are too often unknown. In the learning of geography catch phrases such as 'iron manufacture,' 'dairy produce,' 'corn production' cover a vast ignorance of what is implied in them. Pupils glibly write "Wheat is grown on the Canadian plains and is exported to England"; but how many have the experience and ideas to imagine and conceive what this means in the number of peoples engaged, the variety of activities involved, and the extent and com-

plexity of the organisation of activities required to grow the corn and export it to England? To expand the bald conception the pupils should have examined at least one instance of an agricultural, a pastoral, a trading, and an industrial activity. The economic study should therefore include:—

(α) Agricultural and pastoral activities, including a study of the variety of crops grown and stock reared, and the various farming activities throughout the year, the produce that comes from the farm in food and raw material, and the markets for corn, cattle, sheep.

(β) Industrial activities, including the chief industries of the neighbourhood, the raw materials and their place of origin, the products and their distribution. There should be a detailed study of one industry to examine the manufacture from beginning to end and to note the number of processes involved, the machinery, and the organisation of a large works.

(γ) Commerce, including

- (a) Roads, railways, and canals.
- (b) Docks and goods depôts.
- (c) Warehouses and wholesale distribution.
- (d) Markets and retail distribution.

It would be well to follow some one article such as wool from Australia or cotton from America through all the stages of its growth, preparation, transport, manufacture and distribution so that the pupils may gain a clear conception of the extensive and complex activities and organisation required to produce an article such as cloth, and to see what part of the cost of the article is due to producer, to transport, to manufacturers, and to distribution.

(δ) Communal Activities.

(a) Civic Undertakings.

- (i) Supply of water, gas, electricity, trams; road making and repairing; sewage and cleansing.
- (ii) Health Services : hospitals, dispensaries, medical inspection, clinics.
- (iii) Educational Services : schools and libraries.
- (iv) Recreation : parks and recreation grounds, play centres.
- (v) Care of Poor : guardians, poor relief, work-houses.
- (vi) Police and Local Magistrates.
- (vii) Rates.

(b) National Undertakings.

- (i) Post, telegraph, telephones.
- (ii) Courts of justice, prisons, reformatories.
- (iii) Military and naval services.
- (iv) Taxes.

(c) Voluntary Undertakings.

- (i) Religious and philanthropic institutions.
- (ii) Music, art and literary societies.
- (iii) Athletic and sports clubs.

(5) **Historic Development of the District.**

- (a) Increase in population and extent of the borough.
- (b) Progress or change in industries and commerce.
- (c) Development of educational, medical and other public services, change in death and birth rate.
- (d) Growth of municipal activities as water, gas, electricity and trams, etc.
- (e) Growth of parliamentary representation.

The direct study during the junior stage should be in connection with the simpler facts of physical contour, river action, clouds and rain, shadows, the economy of the

household, the occupations, shops, roads and public institutions of the immediate neighbourhood. These should find their expression in plans and maps of the school and the district indicating the positions of the main institutions of economic, social and communal interest. The Senior Course should be organised so as to provide an intensive and continuous study of each main type of problem. It is suggested that one whole year should be spent on each of the following aspects:—

(a) Surface contour and river action, their relation to the roads, railways and canals, the sites of towns, bridges, works, etc., and their expression in models, contour maps, and sections.

(b) Observations of climate and vegetation, with the recording of the rainfall and temperature averages in graphic form and the making of vegetation charts of the district to indicate the distribution of vegetation, and its relation to soil, moisture, exposure and sunshine.

(c) Industrial and commercial activities of the district and their expression in maps of the industries and of trade and in statistical diagrams of production, cost, etc.

(d) Corporate activities and the historic development of the community.

It is clear that the thorough study of the physical and human aspects of a district would place too great a strain on the time and energy of the Co-operation of School Staff in District Survey. geography teacher. Reflection, however, will show that he is not the only teacher concerned with the study. The examination of every important aspect of the physical and human conditions of a district lays the basis in direct experience of every study in the school. It is, therefore, a general school study to be undertaken by the whole staff. The principal of the school should so organise it that every member of the staff

is responsible for that part of it which most directly bears on his own teaching. Naturally the teacher of geography will control the study of the physical and economic aspects, the teacher of botany or nature study that of the vegetation, the history teacher that of the corporate life of the community and its historic development, the teacher of literature that of place names and dialect, the teacher of mathematics that of the elements of surveying, which forms an admirable practical means of teaching the geometry of the angle and triangle, and a most suitable introduction to elementary trigonometry. The teacher of science is concerned with providing an adequate first-hand study of physical phenomena that bear on geographical topics, such as evaporation and condensation, expansion and conduction, convection, and atmospheric pressure; and the handicraft instructor in arranging for some of the geographical handwork to be carried out in his workshop. In this way all the studies of a school should aid each other in providing the experience and ideas essential to the understanding and appreciation of the real problems of life out of which each study should spring, to which all should lead, and which forms the essential basis of all true correlation.

3. In the emphasis given to the direct study of a district and to the practical exercises in modelling, map making, section drawing, etc., that should accompany it, a word of caution is necessary concerning the danger of overdoing them and perverting them to wrong uses. The geographer in his interest in his subject often loses sight of the educational purpose of a practical exercise, and pursues it with his pupils to an extent and detail that are not warranted. The practical work, then, becomes an end in itself instead of subserving the main

**Aim and
Method of
Practical
Exercises.**

purpose for which geography should be studied in school. Too often the teacher seems to be training embryo surveyors, cartographers, meteorologists, and economists, instead of carrying out the practical exercises just so far and in such a way as to give his pupils experience and ideas which they can apply to the wider field of the countries and peoples of the world. The main purpose of a practical exercise is to provide (1) variety of experience, (2) a field of enquiry to evolve clear ideas, and (3) a practice in appropriate forms of expressing them. Where practical exercises go beyond this they are not justified.

There is a strong temptation, too, to produce tangible results. Models, maps, graphs, and charts are products of the teaching that can be displayed and admired by parents, visitors, headmasters, and, not least, by inspectors. The educationist must probe behind this display, and ask, "How much time has been spent on them? Has the time spent been justified by the new experience gained and the new ideas formed? How much of the work has been mechanical construction, that adds neither to experience nor understanding?" Practical exercises are a necessity, but they may be a fetish and an utter and abominable waste of time. Let every teacher, therefore, so organise and direct the practical exercises as to ensure that each adds to knowledge, thought, and facility in expression.

As an example of the right conduct of a practical exercise let us examine the making of a model, and of sections from a contoured map. This is a valuable exercise, and its purpose is to train the pupils to read a contoured map so as to realise with fair accuracy the form of the surface, and, if occasion demands, to 'picture' it in detail. To do this the pupils have to interpret lines on a surface in

**Model and
Contour
Exercises.**

three dimensional space, and so form a picture of solid shape and slope. In doing this it is a great help to have fixed in one's mind the surface forms expressed by certain typical combinations of contour lines, *e.g.* the lines expressive of a steep slope and a gradual slope, a convex hill and a concave hill, a broad shallow valley between hills and a narrow deep valley pushed into a hill mass, a gorge, a mountain pass, and so on. These form, so to speak, the alphabet, or rather the syllables of the language of contours. When one has become familiar with the syllables and words of the contour language, the meaning of a contour map jumps at once to the eye. The shape and slope of the hills and valleys, the lie of the land, take form at once as mental pictures. To familiarise the learner with the syllables and words of this language, certain exercises in modelling and section-making are necessary. The various typical combinations of contours should be arranged in progressive sequence, and each practised through an exercise to examine contrasted types, *e.g.* a steep and a gentle slope, a rounded hill and a peak, a mountain group and a chain, a narrow valley and a deep valley, etc. Finally, the pupil should be set to interpret a complex arrangement of forms, such as would be presented by a contour map of the Lake District or the Cleveland Hills.

During these exercises model making and section drawing will be a great help. At first the pupil will need to make a model from the contour map and carefully compare each separate land form in both. He can then proceed to the drawing of vertical sections of hills to show their shape and slope from various points of view, and to longitudinal and cross-sections of a valley to ascertain the slope of its bed and its shape at various

places. The pupil, then, should be practised in drawing panoramic views of hills seen from some fixed point, first with the aid of sections, then without. When the pupil can draw a panoramic view from a contoured map without the intermediate aids of models and sections he can realise surface form direct from a map, and the use of models and sections may be discontinued unless exceptional circumstances demand their occasional use. Exercises should now follow in the direct interpretation of complex map forms such as are met with in the ordinary detailed study of a country.

A similar purpose should govern the pupil's meteorological observations and his recording of them in daily and monthly averages and in graphs showing the changes from month to month throughout the seasons. The value of these observations and records lies in the associations, deliberately formed between the pupil's personal experience of rainfall and hot and cold weather and the way these are summarised and expressed in inches of rainfall and average temperatures. By this association certain symbols are fixed in his mind definitely related to certain weather experiences, and can thus serve as his standards of reference when the climatic data of other areas are under consideration.

Suppose, for example, that as the result of his observations he finds the January rainfall to be 1·8 inches and the average mean temperature to be 34°. He has during the month experienced a certain number of days of frost and snow, certain others of thaw and rain, others of cloud and fog, and others of bright warm sunshine. He has noted the direction of the winds and noted which bring wet or dry or warm or cold weather. He notes that the temperature varies from day to day, and throughout the day. He observes the range of variation. During a particular

heavy rain storm he notes that .6 inch fell in 8 hours and that during a prolonged period of drizzle .1 inch fell in 3 days.

All this very variable experience of weather he summarises in a few data for the month. These data are the symbols that stand for that varied general experience. He continues his observations throughout the year, definitely associating each month's weather experiences with the month's summarised data, and exhibits the whole in graphs for the year. He has thus obtained throughout the year a number of symbols associated with cool, cold and very cold, warm, hot and very hot, moist, wet and dry, variable, equable and extreme, weathers. These symbols with their associated weather experiences are now definite standards by which he can interpret the climatic data of other countries with a clearer and more exact realisation of their meaning than if he relied on his casual experience of weather. In this way he will have submitted the weather conditions of his district to an exact and explicit examination, and learned and practised the most convenient modes of recording his conclusions about them.

The value of the exercise clearly lies in the more definite observation of weather experience, the thought given to analysing it, the number, variety, and importance of problems definitely examined and the facility gained in suitable forms of expression. Where thought and enquiry are absent and the observing and recording become mechanical operations, when, too, the problems considered have no wide and general application in other regions, little of value remains to justify the time and trouble expended.

CHAPTER VI.

THE APPEAL TO IMAGINATION AND THOUGHT.

1. By direct study the pupils should gain a varied experience of the geographic features and the human life and activities of their own district. By the progressive examination of this experience they should evolve increasingly definite conceptions and standards, and become familiarised with expressing them in the appropriate geographic language of maps, graphs, and diagrams. This geographic knowledge gradually taking on a more organised form will constitute the material and mental tools with which the pupils will build up realistic "pictures" of other countries and peoples, and give them intelligent interpretation. How this learning at "second-hand" should be conducted will now be examined.

As study at first hand appeals to perception and thought; the one to give a real impression, the other to interpret it: so study of a country and its people at second hand should appeal to imagination and thought; the one to give a realistic picture, the other to understand and explain it. The main general conceptions of a country, such as its position, size, and relation to surrounding areas of land and water, its general surface features and river system, its rainfall and temperature cycles and vegetative areas, can best be presented through the appropriate media of orographic, climatic, and regional maps.

The various types of modern maps are undoubtedly the best mode of presenting and expressing the general physical, climatic, and vegetative conditions of an area; and hence each pupil should possess and constantly use a good atlas, and be trained to read it and interpret it intelligently. The intelligent examination and interpretation of the various maps of an area will reveal the relations that exist between its physical conditions, climate, and vegetation, and will form the basis from which the pupils will infer the general nature of the life and occupations of the people, the industries, centres of population, industry and trade, and the natural lines of communication within the country and with other countries. This process of learning the main general characteristics about a country and its people is one of intelligent observational enquiry into, interpretation of, and inference from the data presented in the physical, climatic, and vegetation maps of the country.

2. The knowledge so gained, however, is only a general outline devoid of life, colour, and vitality.

The Appeal to Imagination. It is but a skeleton framework which needs to be clothed with living flesh, and into which the spirit of human life and activity must be breathed. To the systematic and intelligent grasp of the general outline must be added the appeal to imagination and sympathy by means of vivid description and narrative, realistic literature, pictures, specimens of productions, and other illustrations of a concrete realistic nature.

“Truth,” says R. L. Stevenson, “must be clothed with flesh and blood or it cannot tell its whole story.” This is true not only in respect of young children but with regard to learners of all ages. Pupils of school age are not thoroughly at home with general conceptions. Their thought does not move easily and freely in abstractions

They desire to see things and to handle things, and, if this be not possible, to have them pictured to their mental eye. Perception and imagination are with them more potent in interest, and in understanding also, than abstract and general conceptions and reasonings from them. Until the age of reflective reason arrives in later adolescence the young pupil distrusts and dislikes abstract reasoning. He believes what he can see, and feel, and picture. A picture means to him more than a map; an incident of human life and work more than an abstract idea. Snow and ice, skating, sledging, dog teams and reindeer, fur clothes, frost bite, and the like convey more real meaning than temperature symbols of a winter climate. With the young pupil the general and abstract is grasped through its particular concrete exemplifications, and thought for him needs to be clothed in illustrative dress. By vivid descriptions of scenes and realistic narrative of human incidents illustrative of the conditions of life and work in a country he can place himself in imagination in the country, live in its conditions, and act out, as in reality, the life of its people.

In the teaching and learning of geography, then, to thought which brings understanding must be wedded imagination to give reality and life; to the teaching which excites understanding through questioning and enquiry should be combined the teaching which uses the arts of the novelist and painter.

As an illustration of the dual appeal to thought and imagination let us consider the teaching of the Cod Fishing Industry off Newfoundland. Enquiry and questioning with the help of maps will lay bare the general conditions on which the industry is established and carried on. The meeting of the cold Arctic current with its ice floes, icebergs, and detritus and the warm current from

the Gulf explains the formation of the banks which become the feeding and breeding grounds for fish. The demand for fish and oil by large populations in Europe supplies the incentive for an extensive industry and a large export of cured fish and refined oil. The proximity of Newfoundland suggests the land base of the industry, and the natural harbour of St. Johns points to the chief centre of the fishing fleet and of the related industries of fish curing, oil refining, cord and sail making, and boat building. The impact of the cold air currents from the North and the warm moist currents from the South explains the frequent fogs, while the ocean shipping routes between the Canadian ports and Europe with the presence of icebergs and ice floes indicate the nature of the dangers and hardships attending the industry. These in main outline are the general conceptions that explain the industry.

From these general conceptions, however, the pupils cannot enter with sympathy into the life of the fishermen, see their industry as it is in reality, nor feel its hardships and dangers. They can by these bald data only think it objectively, not see and feel it subjectively. To clothe and animate the skeleton and fill out the hard outlines let us turn to an account from which we can realise the industry as if we ourselves were living in it. Such an account is given by Kipling in *Captains Courageous*. In that wonderful book the art of the novelist presents to us a realistic living picture. We see the fishermen at their work in yawl and dorry. We follow their every action day by day. We live in an atmosphere of toil, hardship, and danger. By sympathetic imagination we realise, as if we were one of themselves, what the cod fisherman's life is. We see and feel what life is from another's point of view; and this is real education, the expansion of the

social and moral vision, and the quickening of the social and moral sensibilities. For the ordinary person and for the young the great educator is the writer, or speaker, or teacher, who can by his words touch the imagination and sympathies. His teaching educates the heart. His words are "a power, they shake us like a passion, and we are drawn after them with gentle compulsion as flame is drawn to flame."¹

Well would it be if through similar great narratives our pupils could see and feel the life of the miner underground, the toiler in the factory and furnace, the sailor before the mast, the lonely shepherd on the fells, and the many workers and toilers who in every part of the world are labouring with hands and brains to supply our needs and to spread our civilisation over the earth. To all those who are factors in the support of our needs and expansion of our culture we owe, by our common humanity, our thought and our sympathy. We should enter into their lives and their toil with understanding and sympathy. To be taken out of our narrow egoistic selves, to see and feel things as others see and feel them, to see the world and all its life and activities from the point of view of those many others in our own and other lands whose lives and work we can only know through imagination and sympathy, this is indeed the real education that geography can bring to both young and old, the education of the Head and the Heart concerning the Peoples of the World.

3. Fortunately there is a good supply of realistic human literature to humanise and to vivify the rationalistic teaching of geography in the many books of exploration and discovery, of pioneer expansion, of military expeditions, of travel, and also in the increasing amount of fictional literature, stories

¹ Geo. Eliot, *Janet's Repentance*.

and novels, that give us living pictures of human life and endeavour in many parts of the earth. The geographical library of the school should contain a plentiful supply of such illuminating books to make real and living every important region of the world. It is only necessary to give here illustrative examples of each kind of work. A more complete list will be found in a pamphlet issued by the Leeds Branch of the Geographical Association.

Travel.

- Stevenson : Travels with a Donkey. (France.)
 „ : An Inland Voyage. (Belgium.)
 „ : Across the Plains. (America.)
 Burnaby : A Ride to Khiva. (Central Asia.)
 Bishop : Unbeaten Tracks in Japan.
 „ : A Lady's Life in the Rocky Mountains.
 Doughty : Wanderings in Arabia.
 Jebb : By Desert Ways to Bagdad.
 Graham : A Tramp's Sketches. (Russia.)
 Knight : Where Three Empires Meet. (N. W. Frontier of India.)
 Candler : The Mantle of the East. (India.)
 Steevens : In India.
 „ : Where Black Rules White. (Hayti.)
 Leeder : The Desert Gateway. (N. Africa.)
 Tweedle : Mexico as I saw it.
 Pritchard : The Heart of Patagonia.
 Brehm : From North Pole to Equator.

Adventure and Sport.

- Whymper : Scrambles Among the Alps.
 Le Blond : True Tales of Mountain Adventure.
 „ : Adventures on the Roof of the World.
 „ : Adventures on the High Alps.
 White, E. S. : The Land of Footprints. (Africa.)
 „ : The Forest. (N. America.)
 „ : The Cabin. (N. America.)

Sea Faring.

- Bullen : The Cruise of the Cachalot. (Whaling.)

Lubbock : Round the Horn before the Mast.

Brassey : Voyage in the Sunbeam.

Exploration and Discovery.

Scott : The Voyage of the Discovery.

Shackleton : The Heart of the Antarctic.

Nansen : Eskimo Life.

„ : The First Crossing of Greenland.

„ : In Northern Mists.

Wallace : The Long Labrador Trail.

„ : The Lure of the Labrador Trail.

Inman : The Santa Fe Trail.

Roosevelt : The Winning of the West.

Social and Political.

Durham : The Burden of the Balkans.

Bryce : Impressions of S. Africa.

„ : S. America.

Colvin : The Making of Modern Egypt.

Military.

Candler : The Unveiling of Llasa. (Thibet.)

Younghusband : The Relief of Llasa.

Robertson : Chitral.

Durand : The Making of a Frontier. (India.)

Churchill : The Malakand Campaign. (N. W. Frontier of India.)

„ : The River War. (Soudan.)

Boulger : Life of General Gordon. (Soudan.)

Steevens : With Kitchener to Khartum.

Animal and Plant Life.

Darwin : The Voyage of the Beagle.

Thompson, E. S. : Lives of the Hunted. (N. America.)

„ : Wild Animals I have known. (N. America.)

Roberts : Watchers of the Trails. (N. America.)

„ : Haunters of the Silences. (N. America.)

„ : Red Fox. (N. America.)

Long : Wilderness Ways. (N. America.)

„ : Secrets of the Woods. (N. America.)

„ : Wood Folk at School. (N. America.)

„ : Ways of Wood Folk. (N. America.)

Bates : A Naturalist on the Amazon.

Literary Essays.

- Belloc : Hills and the Sea.
 „ : Path to Rome.
 „ : The Pyrenees.
 Conrad : The Mirror of the Sea.

Fiction.

- Ollivant : Owd Bob. (Shepherd's Life on the Fells.)
 White, E. S. : The Silent Places. (Hudson Bay Territory.)
 „ : The Blazed Trail. (Lumbering, Michigan.)
 „ : The Rules of the Game. (Early Development of California.)
 Kipling : Captains Courageous. (Cod Fishing, Newfoundland.)
 „ : Kim. (India.)
 Wister : The Virginian. (Ranching in Arizona.)
 Childers : The Riddle of the Sands. (The Frisian Coast.)
 Conan Doyle : The Tragedy of the Korosko. (The Nile Desert.)
 Pickthall : The Children of the Nile. (Egypt.)
 Churchill : The Crossing. (The Alleghanies and Kentucky.)
 London : White Fang. (Alaska.)
 „ : Son of a Wolf. (Alaska.)
 „ : The Call of the Wild. (Alaska.)
 „ : South Sea Tales. (Pacific Islands.)
 „ : Adventure. (Pacific Islands.)
 „ : The Cruise of the Snark. (Pacific Islands.)
 Stacpoole : The Pearl Fishers. (Pacific Islands.)
 Becke : South Sea Pearler. (Pacific Islands.)
 „ : By Reef and Palm. (Pacific Islands.)
 Hyat : The Law of the Bolo. (Borneo.)
 Conrad : Typhoon. (China Seas.)
 „ : Almayer's Folly. (Malaysia.)
 „ : The Heart of Darkness. (Africa.)

4. The earnest teacher will not rely solely for the sympathetic human appeal on his pupils' reading.

Description and Narrative.

He will himself cultivate the power to humanise and animate his own teaching with the same spirit. He should train himself persistently in the art of illustrating the general facts and the reasoned conclusions of geography by incidents and scenes culled

from the many descriptive works of travel, adventure, discovery, and military expeditions that have been mentioned above. The teacher of geography to pupils must be a wide and generous reader not only of professional books on geography but also of more imaginative and human writings. His knowledge must not remain on the academic and professional plane of the pure geographer, but should be generously filled out with the concrete living detail that comes only by a wide reading about human life, work, travel, and endeavour in many parts of the world. Often, indeed, should he devote whole lessons to the vivid presentation of human life and effort in story and narrative that emulate the dramatic arts of the novelist and descriptive writer. He should tell his human story with a touch of feeling, even at times with a tinge of the dramatic. He should paint his pictures in the simple direct language that springs from the experience of the things and happenings of familiar every-day life.

We have, indeed, two languages for the expression and communication of our experience and thought. There is the language of thought and ideas, of classifications, definitions, and reasonings; a language that is academic and professional. This is not the language of description and narrative, of imagination and sympathy. It does not move us. It is the language of science more akin to the symbolic language of algebra and logic than the language that speaks to us of the things and actions and feelings of every-day life. There is, too, the language of experience associated with the daily happenings, familiar to us from our childhood, the words of which are bound up with the qualities of things, and the circumstances of events as we see, hear, and feel them. This is the language of description and narrative. As we have already seen, we can in imagination build 'pictures' only from the elements of our

own personal experience.¹ These 'pictures' are flashed on our minds by words suggestive of the things we ourselves have seen and handled, of the actions we ourselves have done, and of the impressions and feelings that we ourselves have experienced. In such language should the teacher clothe the incidents and scenes by which he illustrates and animates his more general abstract teaching.

The art of the teacher is indeed a difficult one. He must be a master of all the arts and crafts that appeal to the many aspects of the human mind, and that evoke many kinds of response in effort, interest, observation, thought, imagination, and sympathetic feeling. He must stimulate and direct observation and thought by questioning, paint pictures by description and narrative, illustrate them by drawing and sketching, have something of the arts of the novelist and actor to make a moving story and tell it with dramatic effect, summarise the points of an argument like a judge, and exhibit them to the eye on the blackboard like the pithy headlines of a modern daily paper. And yet he must use all these arts with such discretion that never for a moment will he do the work of learning for his pupils. He will give them material for their observation and imagination to work on and stimulate their enquiring thought about it, but he must never forget that the success of his effort will be gauged solely by the interest, effort, and thought evoked in his pupils. Always must he aim at throwing more and more of the stimulus and direction of the learning on the pupils themselves, for the ultimate end of the art of teaching is to develop in his pupils the power of self-learning from books, and by self initiated and directed observation, experiment, and thought.

Independent study is the goal of the teacher who understands his art. Never, however, will the personal

¹ See pp. 59-61.

arts of the teacher in stimulating, directing, and criticising thought and in the evoking of imagination and sympathy be entirely relinquished. Always will there be some place for the more direct and personal appeal of the human mind and spirit expressed in the voice, attitude, manner and whole personality of the teacher. Happy is the teacher who can combine these—independent study and personal teaching—in a just and right measure suited to the stage of development of his pupils' powers.

5. As an aid to imagination pictures are as essential as realistic literature. No geography room is complete without its complement of pictures and lantern slides for class teaching and for independent study by the pupils, and a daylight lantern will be a great convenience. The pictures should be judiciously chosen, and lantern slides made so as to illustrate all the great physical and human topics of geography. There should be, for example, series illustrating—

(a) types of mountains, moorlands, plateaux, valleys and plains, stages of a river from source to mouth, examples of river action, and types of coast features ;

(b) types of Natural Regions, and their physical conditions and vegetation ;

(c) types of life and occupations in all the main regions of the world, depicting dress, dwellings, occupations, manners and customs, productions, implements of agriculture, industry, warfare, etc. ;

(d) the main types of agricultural and pastoral life throughout the world ;

(e) the great industries and manufactures, depicting the processes of manufacture from raw material to finished product ;

(*f*) aspects of commerce, such as: modes of travel, trading centres in the various types of region, docks, railways, and railway goods yards;

(*g*) natural scenery, cities, and constructions of world interest and importance.

Series of such pictures, photographs, coloured prints, and lantern slides are now issued by several enterprising firms. Teachers, however, will find it helpful and interesting to make pictures themselves in water colour or crayon, and to collect pictures from every possible source, *e.g.* illustrated journals and magazines, railway and tourist guide books. Many admirable photographic views of agricultural, mining, and manufacturing processes are given in the well-illustrated modern children's encyclopædias and works on popular science. Collections of small pictures are, however, of little use in class teaching. Class teaching needs the lantern slide, and the picture or teacher's drawing of at least imperial drawing sheet size.

Small pictures are, however, invaluable for independent study by the pupils. For this purpose small pictures should be arranged and mounted on large sheets of cardboard; a series about one topic, or country, or aspect of a country on one sheet. A map of the area concerned pasted on the sheet will be useful. To direct the pupil's examination of the pictures, a number of pointed questions should be written under each picture. The pupil, after examining the card, should answer a number of more general questions about the topic, or systematise his observations in the form of a written account with map accompaniments. Such independent study of a district through a series of pictures is a valuable adjunct to the study of the district from maps. To the general conceptions are added the concrete illustrative detail. A teacher, therefore, should aim to collect as large and as varied a

collection of 'picture sheets' as possible, so that during periods of independent study all pupils can use them, and all the regions of the world can be illustrated.

While a good assortment of pictures is essential, the right use of them is equally vital. If perception and imagination supply the mind with impressions, only thought can discover their full meaning and application. Hence the value of pictures in the learning of geography lies in the detailed and incisive enquiry into each one to obtain from it all the relevant conclusions it is capable of suggesting. As in the study of maps, the observation of a picture consists not only in seeing what is in the picture, but in suggesting what is not there depicted.¹ Moreover, too many pictures and pictures in too rapid succession are a mistake. They induce mere gaping, the antithesis of enquiry and thought. When learning becomes a casual adjunct to a liberal display of lantern slides, the eyes and mouth open and the mind shuts, a state of affairs of frequent occurrence at a cinema display.

The use of the cinema in teaching geography demands some discussion. It may be used so as to be a powerful help in the teaching. On the other hand, it may be the means of wasting time and a positive danger in the slackness of mind it induces. We have emphasised throughout our exposition of the process of learning that learning consists in the double process of gaining realistic impressions by observation or imagination and of thoughtful enquiry into them to grasp their essential characteristics and to understand and explain them. The pupils must gain experience that is concrete, realistic, living, that represents 'the real thing.' This is vital. It is equally vital that they should think about that experience. The two processes are complementary the

¹ See p. 91.

one to the other. Thought is empty and formal unless behind it there is a real representation of reality; and experience by itself is but the raw material of knowledge. Thought acting on real experience results in knowledge. With this analysis in mind there is little difficulty in grasping the part the cinema can profitably take in the learning of geography.

There is no doubt that for the realistic presentation of physical features, and of human life and occupations the cinema gives the closest pictorial approximation to reality. It is true it cannot give us, that which only realistic literature can give, the inner spirit of man's life and work. It may sometimes suggest this, but can never reveal it fully. Hence the superior value for education of literature over pictures. *Captains Courageous* and *The Blazed Trail* are, in their effect on the mind, of greater worth than the most realistic visual representation of cod-fishing or lumbering that the cinema can display. Notwithstanding its limitations, the cinema can give wonderful realistic impressions. The danger lies in the temptation to gaping and to the passive reception of impressions, if reception be not too active a word to express the passivity of having impressions made on the mind. Right conditions of learning must provide for enquiry and thought. The pupil must actively respond to what he sees and attack it by means of his ideas so as to understand it and explain it.

The conditions of a cinema display make active enquiry and thought by the pupils a somewhat difficult matter. The problem, however, is not unsolvable if the right kind of films are chosen and they are treated in the right way. To ensure that the pupils' ideas will actively work on what they see the teacher should ensure that these ideas are ready waiting and sharpened for use in the pupils' minds

before the pictures are shown. The problems and questions which the pictures are to solve and answer should already have been suggested and discussed. The rapid succession of vivid impressions will not then fall on vacant and passive minds. There should, too, be intervals for questioning, discussion and explanation. In other words, the teacher must use every means to promote thought and enquiry, to treat the cinema as an adjunct to real learning, and to discount it as a merely attractive and absorbing display. To that end some form of exercise should follow that will require the pupils to reflect on what they have seen, organise their ideas clearly about the topic, and express them in some appropriate and precise form.

There is a great difference in the educational value of the films exhibited for geographical purposes. Some the writer has seen, illustrating the making of models and sections, seem to be emasculated substitutes for exercises the main value of which lies in the pupil doing them for himself with his own fingers. They only encourage mental inertia. The value of ideas to a large extent lies in the mental activity by which they are evolved. They mean most to us when we have earned them by our own activity and thought. To have them presented in a predigested form, so that all that is demanded of us is to receive and absorb them, is to enervate the mind and to enfeeble its powers. Learning may be made too easy.

Of great value are those that show the progressive stages of some industry or manufacture, *e.g.* lumbering, whaling, ranching, wheat farming, gold mining, and ship-building. Such films display an ordered and rational sequence of views about one topic. The intelligence can follow them with understanding from stage to stage and fit each one into an ordered scheme. The pictures that seem of least value are those that show an extended tour

through some country arranged round no main theme and exhibiting no orderly sequence. Scenes and incidents flash before the eyes in rapid succession. The mind is stimulated in a dozen different directions from moment to moment. No one current of continuous thought can maintain itself. The mind is reduced to gaping and a vague mental blur is the only result. Such a film might have its use if it came at the beginning of a series of lessons or of a course of study. It would give a general impression of a country and excite a certain kind of general interest. It would act as a kind of 'appetiser' for the real meal which should follow. It can, however, be no substitute for solid nutrition and active digestion.

6. The understanding of new subject matter involves, as we have seen, mental processes different from those that go to the formation of mental pictures. The process may be likened to that of digestion in which the food is attacked by the teeth and digestive ferments, and reduced to a form in which it can be absorbed into the blood stream and built up into living bodily tissue to carry on life and work. The understanding of new presentations is, in its essence, a mental attack on them. The implements with which we attack them are our existing ideas and experience that seem to us to bear on them. The new matter is analysed, dissected, and interpreted, and so transformed that it can be assimilated and absorbed into our existing systems of ideas. It thus becomes a living organic part of them to be used in turn in the dissection, interpretation and assimilation of further new presentations. Real live knowledge is not something presented by the teacher and more or less passively received, absorbed, and memorised by the pupil.

Such a process results only in dead knowledge, a

possession solely of the memory, not of the understanding. Understanding comes by the active attack by the intelligence on some new problem, by the ferment of the old ideas working in and among the new experience, and by the new being brought into living relations with those ideas and experiences that constitute the daily working content of the mind. Its results are seen in the active nature of the knowledge so gained. It is alive, growing, ever fermenting, making new associations, reaching forward to new explanations and applications. It has in it the spirit of life and growth, a spontaneous energy that shows itself in the new light it is constantly throwing on old experiences and the new lines of thought and of applications that constantly emanate from its fermenting activity.

The teacher, then, in guiding the process of understanding in his pupils should aim not so much at supplying to them stores of information, or even at leading them to appreciate arguments at second hand, as at exciting his pupils to enquire into some aspect of a country, to unfold problems with regard to it, and to attack them to discover solutions. Enquiry is the natural road to understanding and teaching should assist nature by stimulating enquiry not supplant it by being merely informing. In the attack on a problem his pupils will need guidance; detailed at first, but more general later as the spirit and power of enquiry become an effective learning habit. The tools with which the pupils will attack and overcome their problem are the ideas and analogous experience that they already possess which bear on the problem: Often it will be necessary for the teacher to awaken these interpreting ideas and analogous instances in a pointed way, cause his pupils to examine them from a new point of view, and to define and sharpen them, and direct his pupils to their bearing on the problem. Often, too, he will need pointedly

to stimulate suggestions and inferences and to insist on critical examination of them. But throughout it all he should maintain in his pupils the active ferment of enquiry that will progressively lead to an ultimate understanding of the problem.

As power of enquiry and critical judgment grow guidance can become less detailed. The problem given, its nature realised by a brief examination, and a general hint or two thrown out as to what ideas or what comparisons and contrasts would be helpful, the pupils may be left without further aid to work out their own solution. It is good for them mentally and morally to learn to catch their hare and cook it. The effort stimulates the appetite and promotes good digestion.

7. It is by enquiry, then, that the pupils will earn their own understanding of the problems of foreign countries and peoples; and it is the spirit of enquiry and the power to enquire that the teacher must endeavour to perfect through this aspect of class teaching, and later through the independent study of the pupils. Further, as the general data about a country are best examined through the physical, climatic, regional, and other maps, enquiry will most frequently take the form of map study. Intelligent map study, then, clearly is not merely noting what is in a map as if to make an inventory of its contents. It is an examination of the data expressed in a map with the purpose of solving some problem or problems, a gathering together, and relating, and interpreting of the facts given in a map with a view to suggesting, or supporting, or criticising inferences that bear on the problem. It is, as in the Sherlock Holmes stories, a finding in the map of clues to the discovery of the reasons for things. It is the revealing of the unseen by imagination and thought through the examination of what can be seen.

For example, an important topic in the study of Australia is its late discovery and its still later settlement and development. Are we to give our pupils the answer to this problem as a piece of information to be absorbed by them at second or third hand? This is to make the possession of information, and not the power to think, the end of our efforts. Let it be presented to our pupils as a problem. They are to find a solution by the examination of the necessary maps. The teacher is to act as the supervisor of the enquiry, to give the needful detailed or general hints that will suggest lines of attack. What ideas, then, will help the pupils to attack the problem? Well, what physical circumstances will prevent or hinder a people discovering, or settling in, or penetrating a new land? What analogous or contrasting instances already studied will aid the enquiry? How was America discovered, by accident or design? How was Brazil discovered? Why was not Africa penetrated from the Mediterranean Sea or the Atlantic Ocean, although it was known centuries before the discovery of America? What led the French to traverse America from the St. Lawrence to the Gulf, and what kept the early English settlers to the east coast plain? Why were the western Mississippi plains slowly settled, while the eastern plains were quickly colonised?

Here are ideas and instances to put our pupils on the lines of attack, to be examined with them in detail, or given in a general hint. From them spring the suggestions or clues for the examination of the case of Australia. They are to be worked out and tested by an examination of the orographic, climatic, and vegetation maps to find hindrances to discovery, settlement, and penetration in the position, coast features, nature of the rivers, mountain barriers, and climatic and vegetative conditions of Australia. It is interesting to note how such a problem

opens out all the main physical conditions of a continent that bear on human life and development.

Again, in examining the Plain of Lombardy, a series of questions such as the following would direct enquiry so as to bring out the main conditions determining the position of its centres of population :—

i. Where is the seaport giving entrance to the Plain from the sea? Why is there no port at the mouth of the Po? Compare this with the ports of the North Sea.

ii. Where is the first town likely to be that makes the communication between right and left banks? Compare with Cairo and the Nile, Arles and the Rhone, London and the Thames.

iii. Where are the great towns of the Lombardy Plain situated? Why are they on a ring round the basin between the 300° and 600° contour lines? Compare with the Rhine and the Lower Danube.

iv. What relation have these towns to the natural routes over the Alps to France, Switzerland, Germany, Austria, and over the Appenines to the Italian Peninsula?

v. How will the Western Basin gain access to the sea?

8. The analysis of the processes involved in active

**Types of
School Books.**

understanding as distinct from passive reception of explanation suggests that there is much need for a type of school geography book which, instead of presenting an organised system of facts and their explanation, would, by a series of sequential questions, direct the pupils to an enquiring study of maps. After all, the main facts about a country are given in the various kinds of maps. The facts are there open for their eyes to see and their wits to explain. Class or independent enquiry should get from them whatever observation and inference can give before class teaching and reading step in to amplify, to vivify, and to organise

it. Map study in geography corresponds to laboratory enquiry in science. In science teaching it is now recognised that three kinds of books are necessary, one setting forth problems and queries to guide observational and experimental enquiry; a second to organise and amplify the knowledge so gained; a third book, or rather a collection of books, for class discussion and private reading, of a more general and stimulating character, to expand the vision of the pupils on the world of nature and the history and spirit of scientific discovery. So, too, in the learning of geography. One important aspect of the learning with the older pupils should be the enquiring study of maps guided by a book setting forth problems through a progressive series of questions. A second aspect of the learning lies in the study of a text-book which will systematise and fill out the results of their map study. The third lies in the reading of books to give a fuller and more human treatment, and to make of geography a generous humane culture.

CHAPTER VII.

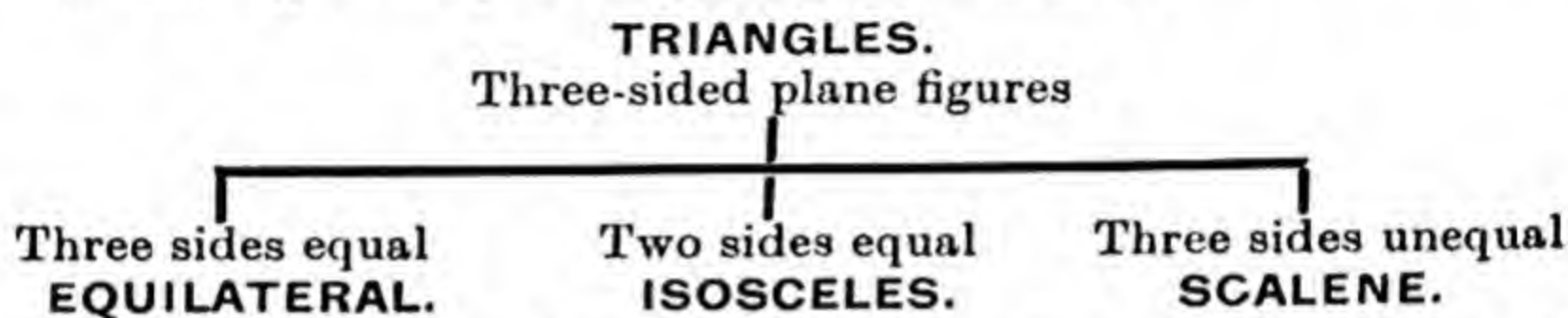
ORGANISATION AND EXPRESSION.

1. Scott in one of his novels depicts a character, Dominie Sampson, whose mind he likens to "the magazine of a pawnbroker's stowed with goods of every description, but so cumbrously piled together, and in such total disorganisation, that its owner could never lay his hands upon any one article at the moment he had occasion for it." Such heaping up of masses of miscellaneous facts is a very possible danger in all learning, and especially in such a subject as geography, in which is gathered together a great multiplicity of diverse facts about countries and peoples. Organisation of knowledge must always be an important step in any learning process, for it is only when knowledge is ordered and arranged in the mind on a rational plan that the understanding can obtain a clear and comprehensive grasp of a large field of diverse facts, and secure an intelligent and ready recall of those required for any particular occasion.

The organisation and fixing of knowledge, moreover, is closely connected with, indeed inseparable from, forms of expression that exhibit it in such a way that the mind can grasp the whole as a system of related parts in one comprehensive mental glance. The essential features of such forms of expression should be clearness and precision, conciseness and succinctness, and an arrangement that exhibits the facts and ideas, and their relation to each

other, so as to make a rationally ordered unity. Excellent examples of such forms of expression are familiar to all in the classifications and proofs of geometry; and a brief consideration of these will repay the teacher of geography who realises the need in his study of ordered expression.

For example, one of the several systems of knowledge about triangles may be expressed as follows:—



Such an organisation of knowledge is known as a classification, and its purpose is to indicate the characteristics that are possessed by triangles as a class and are common to all triangles, and to mark those peculiarities that distinguish each group of triangles from the other groups. To be perfect the classification should include all the possible groups of triangles distinguished from each other in respect of the equality or inequality of their sides, the groups should be mutually exclusive, and the arrangement in setting them forth should be rationally ordered on a definite plan.

For the purpose of clear comprehension the precision and the conciseness of statement, the succinctness of arrangement, and its orderly appeal to the eye should assist the intelligence to grasp the whole and its parts in one single mental glance. The advantage in clear comprehension of the above economical mode of expression can be seen if it is compared with the same classification expressed in more literary form, *e.g.* Triangles are plane figures bounded by three sides. They are of three kinds, according to the equality or inequality of their sides. Those having three sides equal are called Equilateral; those with

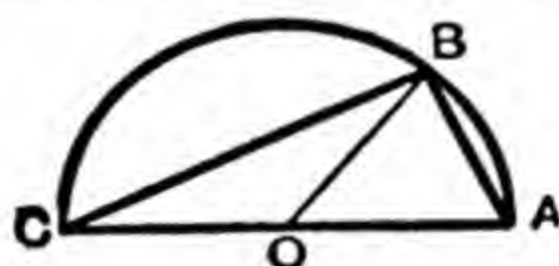
only two sides equal are called Isosceles; those having all three sides unequal to each other are called Scalene.

Geometrical proofs, such as those of Euclid, exhibit another form of organised expression of knowledge. In these there is set forth a sequence of deductive inferences from certain data with the object of demonstrating the consequential proof of some theorem. Its expression in an orderly system shows the whole line of argument set forth in a number of steps arranged in rational sequence. To assist the intelligence through the eye to grasp the sequence of steps in the whole argument it should be set forth with the greatest conciseness and economy of words, and arranged so as to show in a striking way the sequence of steps.

For example, the line of argument to prove that the angle in a semi-circle is a right angle might be set forth as follows:—

To Prove.—*The angle in a semi-circle is a right angle.*

Given.—Let ABC be a semi-circle with centre at O .



Proof.—

Semi-circle ABC

$$\begin{array}{c}
 \begin{array}{cc}
 \boxed{\begin{array}{l} OA = OB \\ \therefore \angle OAB = \angle OBA \end{array}} & \boxed{\begin{array}{l} OC = OB \\ \therefore \angle OCB = \angle OBC \end{array}}
 \end{array} \\
 \vdots \\
 \therefore \angle ABC = \angle BAC + \angle ACB \\
 \vdots \\
 \therefore \angle ABC = \frac{1}{2} \text{ of two right angles} \\
 \vdots \\
 \therefore \angle ABC = \text{a right angle.}
 \end{array}$$

Conclusion.—

T. G.

2. Obviously, all systems of knowledge cannot be expressed in the same form. The nature of the relations that bind the parts of a system into a whole vary in different systems of knowledge. In thinking of a flower, for example, we may think of its parts in a space order; or according to the order of time each develops; or according to the function of each part in the work of the flower as a whole. Naturally, the form of expression will depend on the nature of the relations, whether of space, of time, of function, or of cause and effect. It will be important, therefore, to enquire what kind of relations are most frequently met with in the study of geography, and to discover the forms of expression that will assist facile comprehension.

The relations most frequently met with in geographical systems of knowledge are—

(1) relations of space, as in grasping the relative positions of countries, physical features, and towns;

(2) relations of quantity, as in grasping the relative sizes of countries, mountains, rivers, populations, products, and exports;

(3) relations of similarity and difference, as in grouping or distinguishing the areas of the world (or of a continent, or country), according to similarities or differences of surface features, climate and vegetation, human life and occupations, races, religions, degree of civilisation, or any other bases that may serve a useful purpose;

(4) relations of cause and effect as in grasping the effects of the physical conditions of a country on the life and activities of its people.

Two modes of expression are possible:—verbal and graphic. Each of these has its own peculiar value and use

both in aiding intelligent comprehension and in facilitating ready recall. Clearly relations of space are best grasped in the graphic form of maps, plans, and diagrams. To describe in words the exact position of mountains, rivers, towns, or vegetation areas is a difficult, cumbersome, and distracting task. Moreover, such description is impossible unless we have first recalled a spatial image in the mind. Such spatial images are often very vague and ill defined; but they are so because our knowledge is wanting in clearness and definition. The clearer our knowledge of any set of spatial relations is, the more the spatial imagery takes the form of a map, plan, diagram, or sketch. The 'mental map,' *i.e.* the map image, therefore, is the intellectual instrument by which we think clearly about relative position, and, hence, the map form of expression is the most suitable for assisting its apprehension, and for fixing it in the mind. Maps, plans, and diagrams, therefore, should be a language in frequent use in the discipline of learning geography.

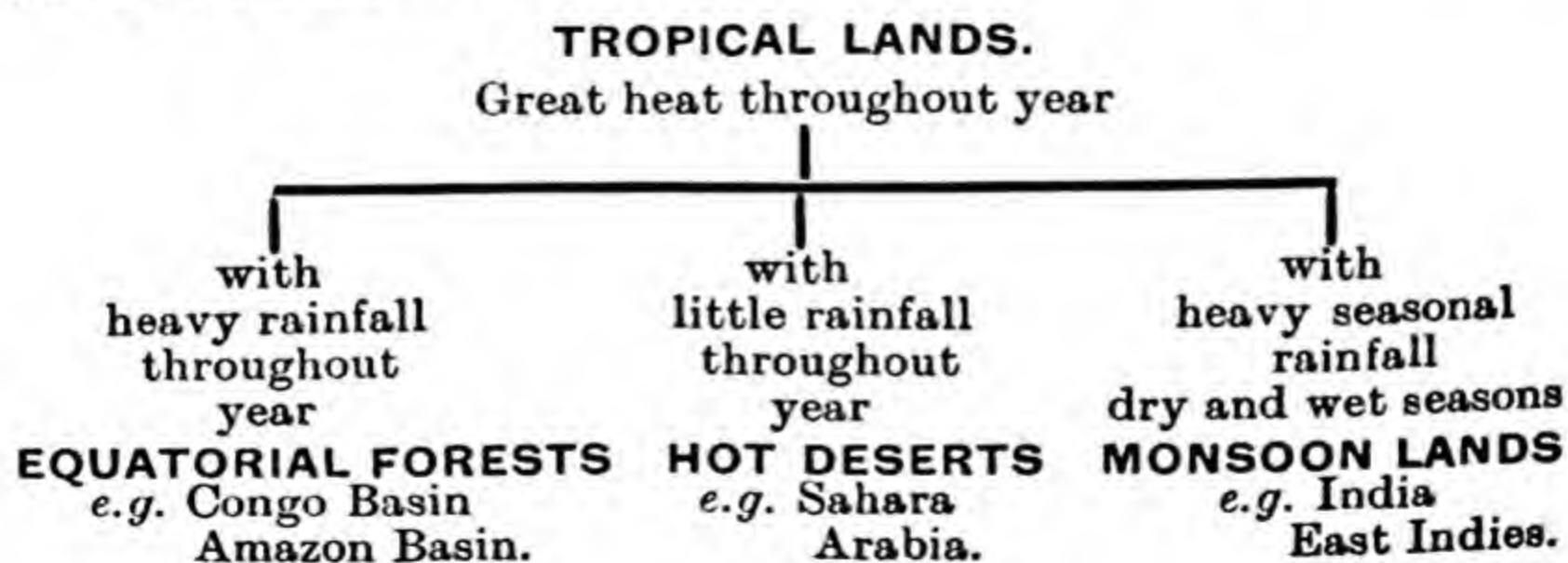
Whenever quantities of whatever kind need to be compared graphs or graphic diagrams should be used. These express quantity, not by an arbitrary and conventional symbol which has no face value, but by means of typical quantities such as lines or areas. Such graphic expression of quantity has a face value. It carries its meaning on its face, plain to the eye. Hence the intelligence is assisted in thinking about quantities when they are expressed in a form that carries a "quantity meaning" that can be apprehended directly. Thus the comparative sizes of several countries may be represented by rectangles, the areas of which are proportional to their respective sizes. When these are placed side by side the mind can perform its work of comparison with one single act of direct apprehension, which would have been impossible had the sizes

been expressed in figures. Similarly the progressive change in a quantity, such as temperature or rainfall, throughout a period of time can be expressed as a graph, and the nature of the change, its rise or fall, the rapidity of its change, and the difference between the amounts at any two periods can be simply apprehended by direct observation.

Graphs and graphic diagrams, therefore, should be regularly used for summarising rainfall and temperature cycles, comparative sizes of countries, towns and populations, lengths of rivers, heights of mountains, and amounts and values of productions, exports and imports. It is obvious that squared paper will facilitate quick and accurate manipulation in all graphic summarising.

In expressing in an organised form the distinguishing characteristics of the regions of a continent or country, and the effects of such conditions on the lives and activities of the inhabitants, verbal expression is the most suitable, and ingenuity should be exercised to discover the form most economical in words, and the arrangement most compact and orderly that will best assist clear and rational comprehension.

To distinguish between regions, the classification form of expression will set the relations forth in the most compact form. For example, the regions of the tropics can be shown as follows:—



Sometimes in dealing with any area it is convenient to distinguish between its regions on the basis simply of climate and vegetation, as in the case of the Mississippi Basin, which falls into three regions, Arid Plains, Grasslands, and Parklands. At other times other physical factors become dominating influences on human life, and distinctions on those grounds will dominate the classification as in the case of Palestine into Hill (Jews) and Plain (Canaan), and in the case of Greece into Mountainous Interior (Sparta), Maritime Coast, Inlets and Islands (Athens). Whatever be the grounds of the distinction it will assist comprehension for the pupils' notes to show clearly and tersely in the form of a definite classification, the main types of region in any area and the distinguishing characteristics of each.

At the same time it will be important to associate with each region those effects on human life and activities that necessarily follow for its dominant characteristics. These can be expressed in the following way:—(see diagrams on pages 102 and 103.)

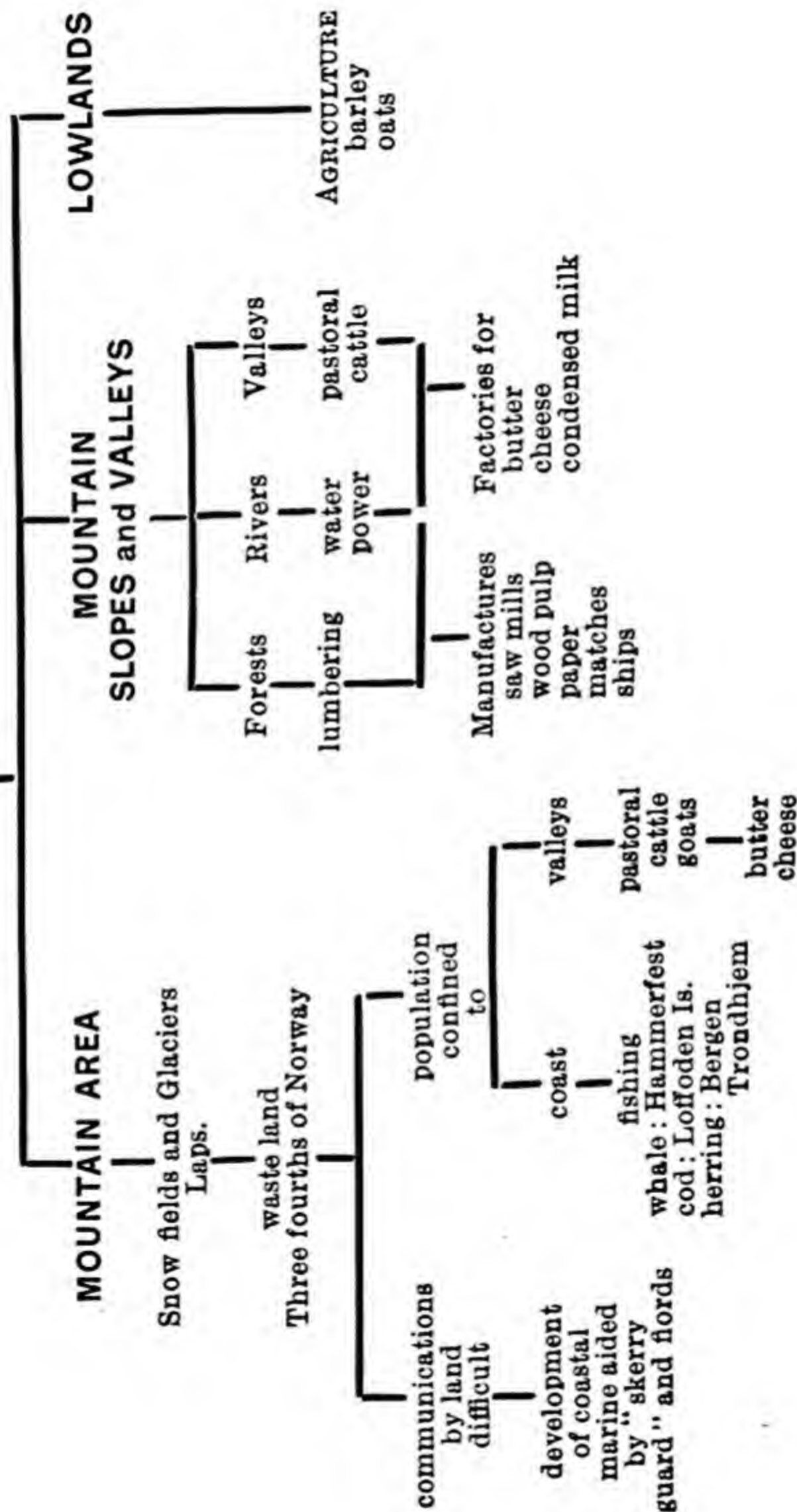
In the above forms of expression it should be noticed that the main headings classify a country or area into its most important regions, while the sequence of statements arranged vertically exhibits the effects of the physical characteristics on the life and activities of the people.

Complete expression of a whole system of knowledge, such as the above, cannot be worked out by the pupils in one lesson interval. Nor should such organised forms of expression be placed before them in a ready-made form. They should be gradually elaborated as the learning proceeds. Each main topic should be systematised immediately it has been studied, so that, piece by piece, the whole epitome of knowledge about a country will be compiled.

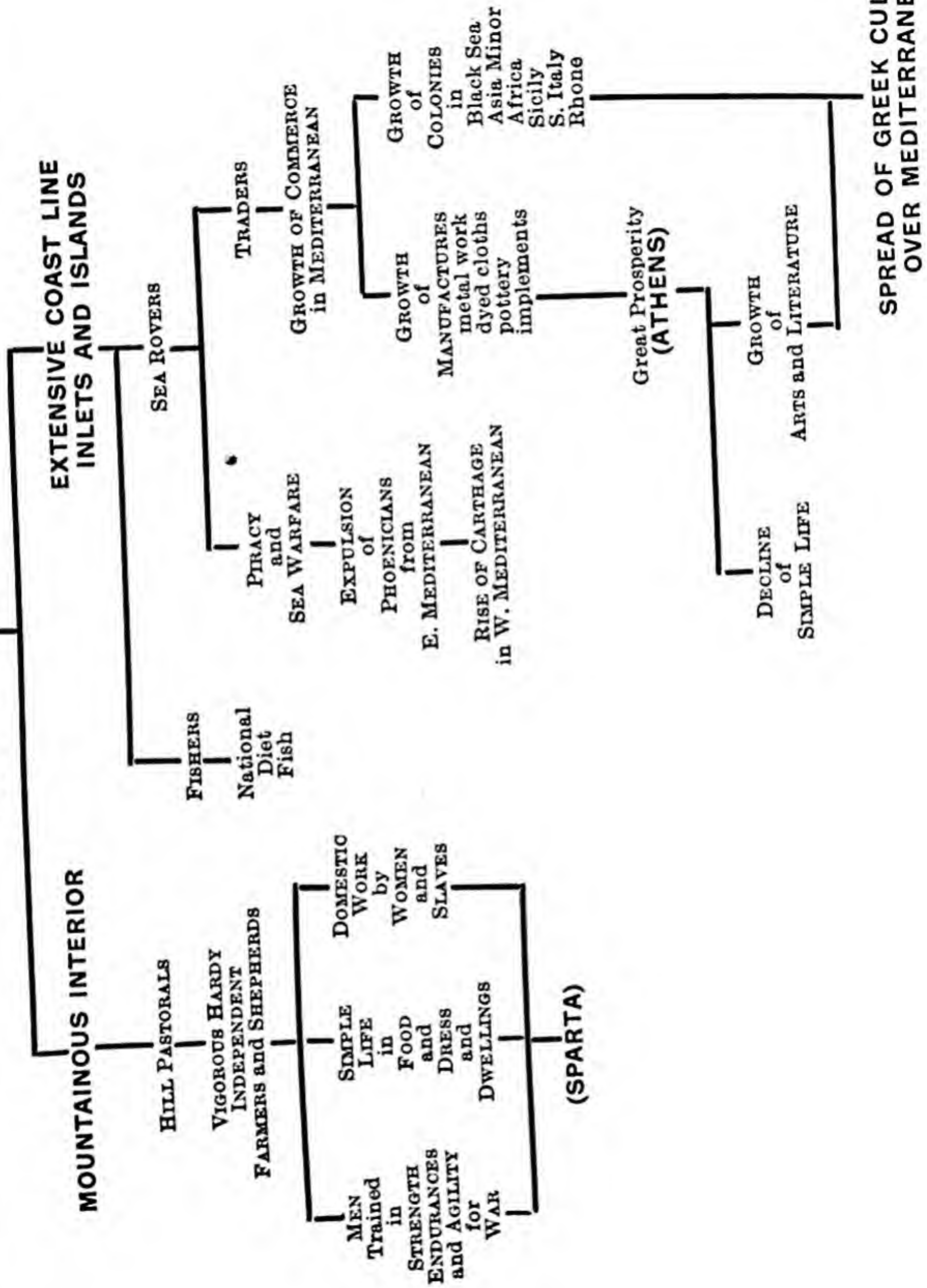
As with all the other activities of learning it is vital

SCANDINAVIA.

COLD TEMPERATE AND ARCTIC ZONE.



ANCIENT GREECE.



that the pupils should be trained in the power to think out for themselves orderly and concise arrangements for organising their learning. At first these will be compiled collectively in class work with the directive cooperation of the teacher, but ultimately the pupils should organise their epitomes by their own unaided efforts. As we have so frequently emphasised, power over knowledge, and not its mere possession, is the true end of instruction. Hence to present organised summaries ready-made by the teacher, or by the author of a text book, is to devitalise and emasculate the process of learning. Power of thought, whether in assimilating, in enquiring, or in organising, must be earned by the effort of the pupils' intelligence and will. The true discipline in learning lies in the effort made. It cannot be too strongly emphasised that the teacher's aim should not be to save the pupils effort and thought and make learning easy for them. False and sham learning can be made easy, but it ends only in the possession of dead knowledge or the mere show of it. It may pass muster at examinations, especially if they be of the unintelligent kind, but it cannot lead to the development of any real mental power.

The only true learning is that by which power is trained, or to quote Newman's words, that which gives the mind "power over its own faculties, application, flexibility, method, critical exactness, sagacity, resource, address, eloquent expression." Such a result is not attained by easy ways and by absorbing ready made knowledge. Nor should ease be confused with interest. Learning can, and should be, made interesting and intelligent, and not dull and aimless, pleasurable work and discipline, and not boring drudgery, but it should always demand the utmost that the pupils are capable of in attention, thought, and individual effort. The teacher's task is to arouse

purposive interest, stimulate effort, and guide thought so that learning may be fully fruitful in power and will not be carried on in mechanical, unintelligent, and foolish ways. Hence, difficult as it is, the pupils should be trained to organise their learning into concise, orderly epitomes on a rational plan, for there is no more valuable discipline than this towards gaining mastery over one's knowledge, grasping it intelligently and comprehensively, and fixing it in the mind in a form that promotes facile and intelligent recall.

(c) **Essays and Written Answers.** The organisation of knowledge is seen, also, in the writing of essays and in the answering of questions of a broad character. These are, indeed, only systems of knowledge fully expanded. They should present precisely the same features of organisation as do epitomised summaries, viz. precision and clearness of statement, orderly sequence, rational arrangement on a definite plan, and unity. The value, therefore, of written exercises of an expanded form lies in the attention and thought given by the pupils in arranging their facts and ideas under an orderly and intelligible sequence of headings and in expanding their ideas under each heading into ordered paragraphs. Care should be shown in choosing the topics for these exercises. They should be such as to encourage breadth of outlook, and originality and initiative in the selection and arrangement of matter. Topics that require only the more or less mechanical recall of matter learnt cannot develop power except that of mechanical recall. It is advisable, moreover, to train pupils to the habit of planning their essays and answers by drawing up a preliminary outline sketch or epitome arranged under headings. Time spent in surveying the whole field and in ordering their thought lays the foundation, in an essay or answer, of proportion, sequence,

and unity. The experience of the writer with undergraduate, and even graduate students, indicates that these qualities of good writing are only too frequently lacking. To encourage orderly arrangement it is advisable on some occasions to require no more than an outline plan, so that in the course of one lesson period several topics may be surveyed and outlines of them arranged.

The writing of essays and answers to broad questions is an essential part of the discipline of thought in every study. Its practice, however, tends to be neglected. Only too frequently are written exercises left to the teacher of English and to the hour allotted to Composition; the teachers of other studies confining themselves to the 'taking in' side of learning, and leaving the 'giving out' in written expression to take care of itself. Such a tendency is fatal to any true discipline of mental power.

It is true that the Teacher of English must give both instruction and practice in composing, but these should be devoted to giving the pupils a more conscious knowledge of structure and to improving their power of realising it in writing. The natural application of this power, however, lies in the written exercises necessary to the effective study of every subject. Bacon in his essay on Studies says "writing maketh an exact man." His reference clearly is to the discipline that writing should give in precision and conciseness of expressing thought, and in its ordered arrangement into sentences and paragraphs. In other words, writing brings thinking to the plane of conscious effort; the implicit in our ideas has to be made explicit; the vague sufficiently definite to be put into words. Hence every study should have its discipline of written exercises.

Especially are written exercises necessary when the scheme of school study includes a large proportion of

independent study from books. Every form of learning has its own peculiar weaknesses and dangers. Pictures, as we have seen, encourage gaping. Class teaching has to guard against the danger of pupils relying on the efforts of the willing. So, too, learning from books tends to provoke in many minds of a not too active kind an attitude of passive reception and absorption, especially if there be an examination ahead. This danger should be guarded against, and the antidote to it is for the teacher to insist on learning from books being accompanied by personal discussion with the pupils, and independent expression by them. These should be sufficient in amount to indicate that the learning has been proceeding on the lines of intelligent assimilation, rational organisation, and varied application. Assimilation, expression, and application are three aspects of learning that should walk hand in hand; and written exercises, stimulating initiative and thought, are the appropriate means for testing all three. So much is this the case that, when independent learning occupies a considerable portion of the pupils' time, the teacher's time must necessarily be occupied with the examination and criticism of written exercises, and with the thorough discussion of them with individual pupils or with small groups.

An examination of the verbal epitomes set out on pages 102-3 will show that they do not, and cannot, adequately express the space relations that are implied in the systems outlined. No verbal expression of these, as we have seen, can be so clear, so succinct, and so helpful to our mode of thinking clearly about space as their expression in a plan or map. The map is the language of geography; and our pupils must learn to read maps, to think in maps, and to write maps.

(d) Map
Summaries
and
Illustrations.

Reading a map, as we have seen, is not merely noting what is obvious to the eye. It is intelligent enquiry and analysis. So, too, 'writing' a map is more than drawing a map from an atlas. 'Writing' a map should mean using the map form as a means of expressing the content of, and the connection in, one's thought in so far as that is based on relations of position, direction, and extent of surface, just as in writing a sentence or paragraph one expresses one's ideas and the connections between them. Maps used in this way are now becoming a common feature in atlases and books on geography. All the general facts about a country or continent are 'written' in the orographical, temperature, rainfall, vegetation, production, and mineral maps found in all good atlases and text-books; and these are adopted by all good teachers, not only as the primary aids for studying an area, but as forms in which the pupils are required to express and fix their knowledge on these matters.

It is not so common, however, to see the map used for expressing every manner and kind of geographical system that requires location in space. Yet, as we have seen, there is no more valuable way of grasping such systems, and of thinking of them, than by the 'map image.' So important in thinking geographically is the "map image" that parallel with every series of verbal summaries should be a series of 'map summaries' to locate all the main facts in their right spatial relations. Similarly, too, when writing essays and answers pupils should be required to illuminate them with maps drawn to illustrate special points. In every way the map should be encouraged as the mode in which the pupils should think and express themselves. It is important, too, to be clear as to the chief characteristics of a good 'map summary'

or 'illustration.' Each should deal with one set of related facts, and one set only, and exhibit these facts and their relations to each other on the map with striking clearness. Figs. 1 and 2 are given as examples, further examples may be seen in any good modern book on geography, such as Mr. Fairgrieve's *Geography and World Power*.

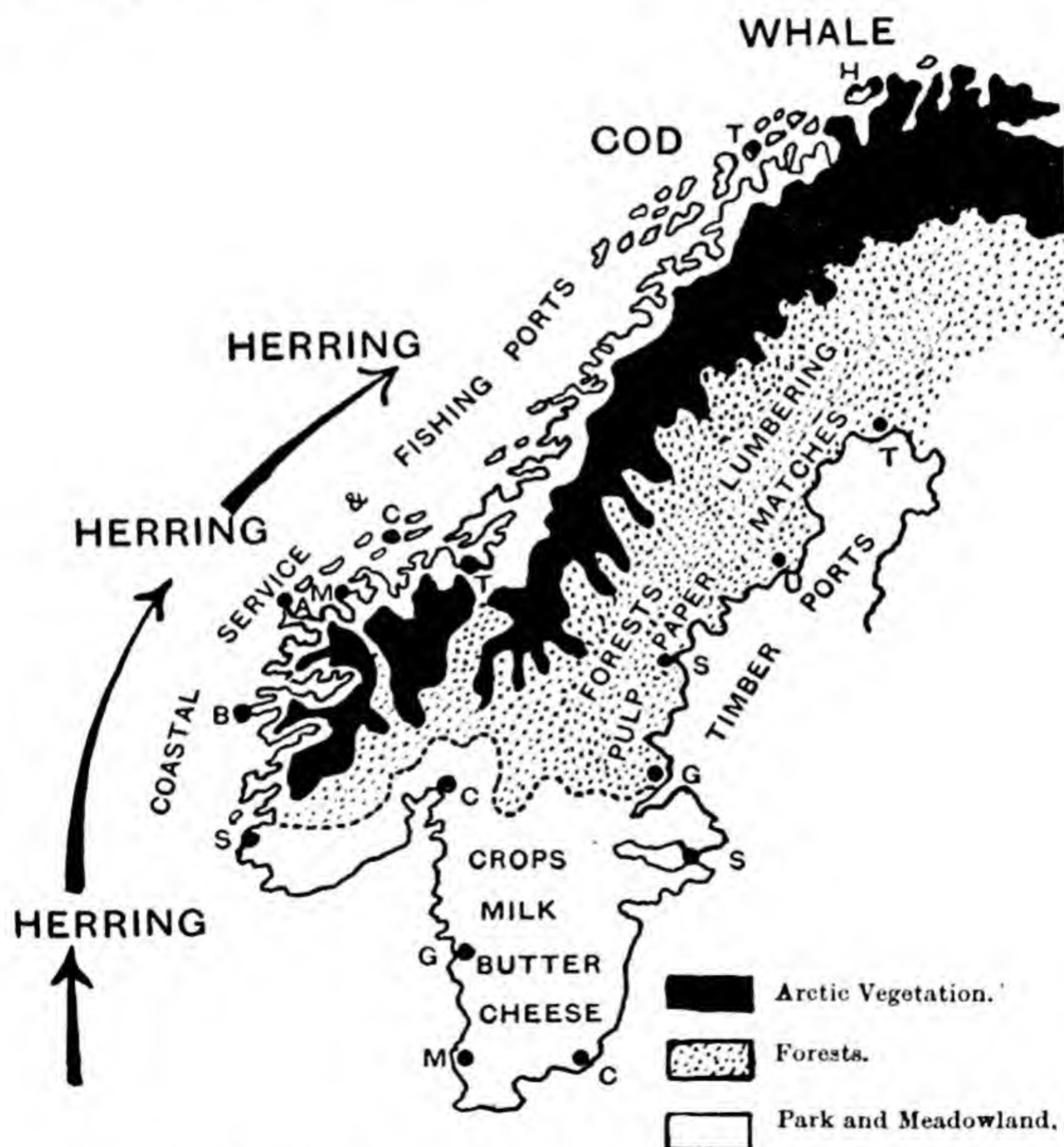


Fig. 1.—THE INDUSTRIES OF SCANDINAVIA.

As a country or continent is being studied, the summaries in their various forms will be gradually compiled. The pupils' note books, therefore, at the end of the study should contain—

- Pupils' Note Books.
- (a) Verbal epitomes of the physical, economic, and human aspects;
 - (b) map summaries illustrating all the important points;
 - (c) graphs and diagrams epitomising essential statistics.

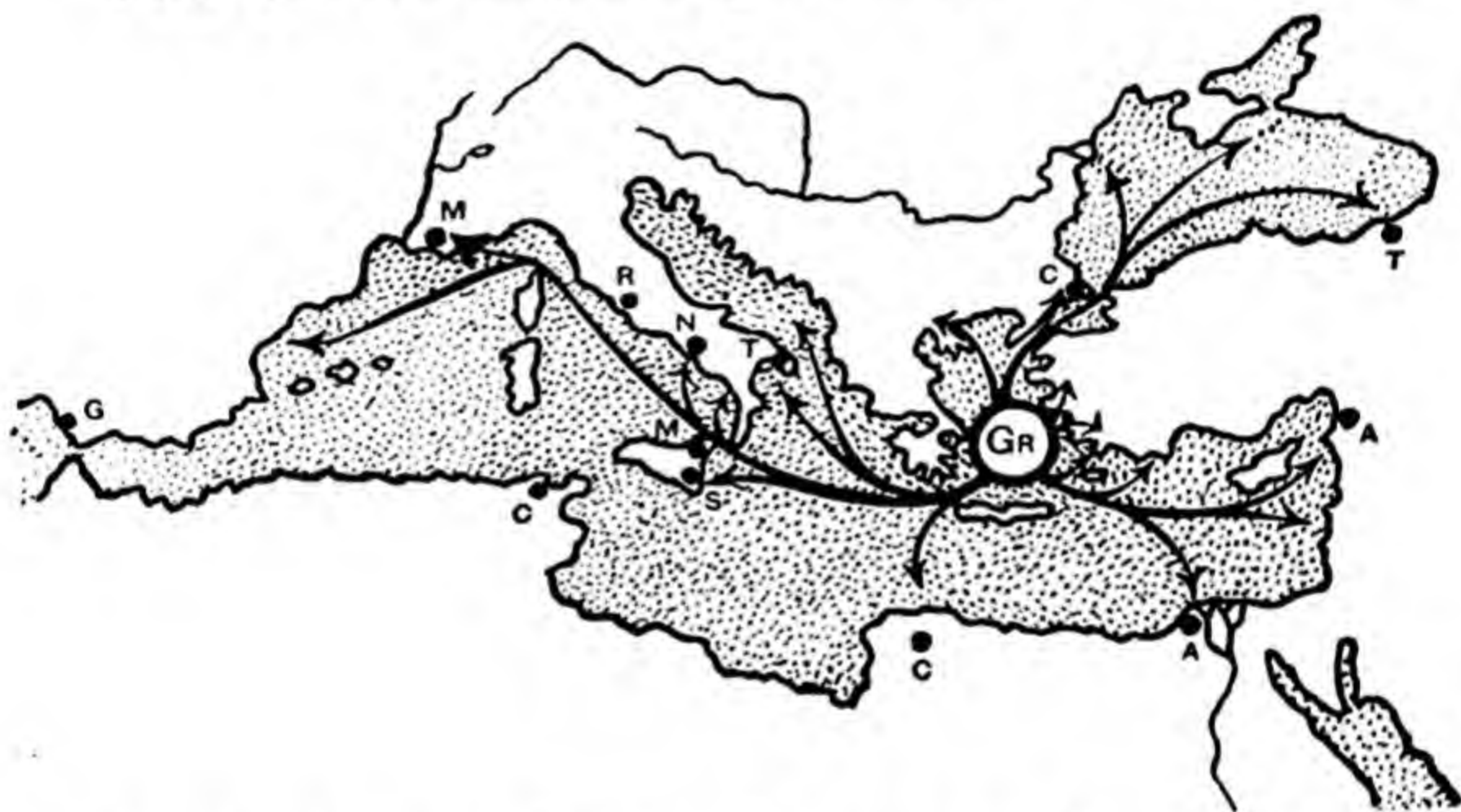


Fig. 2.—MARITIME GREECE. EXPANSION BY SEA SHOWN BY RADIATING ARROWS.

Such a note book can well form the pupils' text-book for purposes of reference and revision. The printed text-book can then be chosen to amplify those portions of the geography course that are but sketchily treated in class, and can form the groundwork of independent study. Always, however, should the teacher arrange for his pupils to study works that give a wider and more human treatment than is possible in the narrow limits of a school

text-book. The text-book is a necessary tool in the discipline of learning. It becomes a curse if it is made the end of all things. The true expansion of the mind in thought and in sympathies, the nourishment of the head and the heart, comes from a diet more generous and stimulating than is usually found in text-book fare.

3. Verbal language and the language of maps, diagrams, and graphs are of the nature of tokens of thought. They are forms of expression suited to an advanced stage of understanding when thought operates through general conceptions and relations. In the more elementary or primitive stages of thought, images of things and events, rather than words and other symbolic expressions, are used by the mind to aid thought. In thinking of a river, for example, even an adult person is helped by recalling some particular river scene, or succession of river scenes, that he has previously experienced. He may even seek to express these in pencil, brush, or crayon. Obviously these representations of 'river' do not constitute the meaning he attaches to the word 'river.' They do not express his idea of its essential features, for meaning is general, and refers only to those characteristics of our experience that are common to a whole class. Images, single or in succession, can be only exemplifications or illustrations of some one or other aspect of general meaning.

However the exemplification of 'river' in successive imagery may differ, the meaning of 'river' remains the same. Hence the word, or some other formal symbol, such as a wavy blue line on a map, comes in the economy of thought to stand for the meaning, and to be used in thought, and in communicating and recording thought, as the token of meaning; or, to change the metaphor, as the

handle by which the mind manipulates its ideas. All such expression in symbols or words emphasises the abstract and universal in our thought. It stands for essential properties and conditions, and not for the particular form in which such properties and conditions are experienced in sense perception or recalled in imagery. The aim of such expression is essentially clearness and precision in exhibiting meaning and in showing the relation of ideas to each other. Hence our emphasis on pupils being trained, during the more advanced stages of learning, in expressing and fixing their understanding of a country in organised notes, maps, and diagrams, and securing by practice a mastery of this machinery of abstract thought.

At the same time, as we have seen, general conceptions should be constantly kept in touch with concrete reality as we experience it through the senses, or as we picture it in imagination. The things and events of the world present themselves to us in concrete form as things felt and seen. Our study is a study of the world as it appears to us. We can only think about it with vividness, and 'see it' as it appears to us, when we think about it and express our thought about it in 'pictorial' imagery. It is true this is not the whole of thought, for we can think about it with greater clearness and precision and with a deeper insight into its essential nature when we think of it in terms of general conceptions, and express our thought of it in symbolic instead of 'pictorial' form. Constantly, however, in our thought we have to pass from the abstract aspect to the concrete, or from the concrete to the abstract. At one moment in thought we are dwelling on essential meaning, at another on concrete realities. Thought about the world of things and events, too, only moves freely and with confidence when ideas are kept in touch with realities and constantly exemplified and vivified by them. We think

largely through concrete illustration, exemplification, and typical examples, until constant use has given us such familiarity with, and power over, abstractions that we can refer to them and manipulate them through symbols.

Even when practice has given us the power to grasp and use general conceptions, thought must constantly realise them in concrete form, indeed in a variety of forms. For ideas are for use, either in constructive thought in inventing some plan, scheme, or appliance which has to work in a world of concrete realities, or ideas are being called on to analyse some new concrete experience to grasp its essential nature. Hence whether thought operates in a constructive or an interpretative way, for effective thinking there must be behind our general conceptions a large background of varied concrete experiences, so that we can at will translate our general conceptions into concrete forms, and change that concrete form from time to time to suit the exigencies of new or changing circumstances.

For example, our general conception of force, symbolised by the word or by the usual graphic form \longrightarrow , may in thought about some real problem require to be exemplified in one or other of a great variety of ways. It may be a strain or stress on a wire, rope, or rigid bar, the pressure of a spring, of air, or of water, the force of an exploding solid, liquid, or gas, the expansion of steam, the friction of a surface, the action of gravity, and so on. There are a thousand ways and an infinity of circumstances in which the conception of force may need to be exemplified in the concrete; and our thought on any problem, either in inventing or interpreting, needs 'to picture' it in the way most appropriate to the circumstances. The fruitfulness, therefore, of general conceptions will depend on the richness and variety of the background of concrete experience, perceived or imagined, that lies behind our general notions.

Thought, then, even the most abstract, should be in constant and closest touch with reality. There should be no passage from the concrete to the abstract in the sense of passing away from the one to the other, of leaving the concrete behind and living in a world of mental abstractions. Thought rather should pass from thinking of realities in the concrete, to thinking about these same realities by the help of general conceptions. However much thought may range in the sphere of the universal and infinite, it should always have its feet firmly and widely planted on the earth of realities as they are experienced, and should constantly be tested and enriched by our own experience or that of others.

At all stages of learning, then, the learning of pupils should find expression both in concrete and abstract forms, though naturally the former will predominate during the early years of learning. In the early stages ideas and the words that stand for ideas require constant exemplification and expression in pictorial ways. Thus in locating the products of a region in a map it is helpful to young pupils to fill in a map, not with the names of the products, but with simple little drawings suggestive of them. Such pictures may be seen in the map printed each week in *The Children's Newspaper*. Again, in expressing their concrete notions of the life of a people, as the Eskimos or Arabs, it is helpful to the young for them to cut out in paper or cardboard representations of the various objects and articles indicative of their life, to colour them appropriately, and fit them together to express some scene or incident in the life of the region. Similarly in the early study of a district the expression of its form, hills, valleys, streams, roads, railways, bridges, its villages, churches, mills, and the like, in a 'realistic model' made by

**Concrete
Forms of
Expression.**
(a) Pictorial
Forms.

group effort, is more helpful to their primitive mode of thinking than its expression in the more symbolic type of model or map. These and other forms of concrete expression should be in frequent use with the very young.

In presenting the subject matter of geography to the very young, 'pictorial' forms are preferable to the more symbolic. For example, the pictorial or bird's-eye-view map is more helpful in giving young pupils their first conception of a district than either the line map or the plasticine model; though these can well be used in conjunction with it. Such pictorial maps are used by various railway companies to advertise the holiday districts served by their trains. The most admirable of them are those of the Lake District and the Welsh mountains and coast issued by the L.M. & S. Railway Co., and those of the N.E. counties issued by the L. & N.E. Railway Co. The danger, however, in all these forms of pictorial presentation and expression lies in keeping the young too long in the stage of thinking and of expressing themselves in the concrete. The passage to thinking in essential meanings and expressing thought in symbolic form of words, maps, and graphs, though not unduly hurried, should not be too long delayed.

(b) Dramatic Expression. Dramatic expression has a peculiar value in the learning of any subject, such as geography, that is concerned with human life and activities. As we have seen, we bring our minds into touch with others by sympathetic imagination, so that we can think and feel with and for them. Such power of sympathy is innate in the child, and finds spontaneous expression in imitative action in the form of dramatic play. There is nothing more striking than the tendency shown by all children everywhere, of imitating in dramatic play some part of the lives of their elders. The little

girl plays at being mother to her dolls, talks to them, praises them, chides them, dresses them, and puts them to bed. The small boy plays at being a carpenter, an engine-driver, a backwoodsman, and the like. In dramatic play they act out in their inner life of thought, feeling, desire, and purpose, and in their outer life of gesture, behaviour, and action, the lives of others as they see and feel them by the power of sympathetic imagination. They thus gain, even though it be in a partial and imperfect way, an experience of life, of its duties and obligations, of its desires, ambitions, and ideals that is beyond and above their own small experience. They are learning by imagination, sympathy, and imitation to expand their mental and moral world. As the little child plays at being a mother to her doll, she feels in her childish way the thoughts and emotions, the duties and ideals of motherhood. She shows the love and care and watchfulness, the patience, gentle reproof, and sympathetic praise that she has experienced in her mother's care of her, or as she has realised motherhood in the stories she has read.

Dramatic play, then, is the natural and spontaneous way by which the young express their conception of the lives of others, and by such expression they are expanding their social and moral nature, and widening their experience of human life. In the development of their experience of human life, dramatic play serves the same end, and takes the same place as does constructive play—the making of houses, castles, gardens, and the like—in widening their experience of physical things and structures. By the latter he gains a direct experience of things and their properties, of how they react to various actions, and of how he must manipulate them to attain certain results; in a similar way by dramatic play and sympathetic imagination, he gains a personal experience of the inner

life of desire, purpose, ambitions, and ideals of those around him, and of the imaginary persons in the stories he hears and reads. Hence, dramatic play has its part to play in the educative process and in the instruction that aims at widening experience of human life. So long, therefore, as dramatic play remains a spontaneous and natural force in the lives of the young, it should be an important adjunct to the presentation of stories from literature, history, and human geography.

The construction of models in clay, plasticene, damp sand, or flour and salt with the younger pupils, and the more exact contoured models in cardboard for advanced pupils, are the most appropriate ways for expressing in the concrete the forms of land surface and of river basin. The making of these models, and the study of them when made, should bring out with increasing exactness the relation of streams, rivers, roads, railways, and canals to the slope of the surface, and some of the conditions of surface and river that help to determine the position of towns.

For example, the making of a model of Yorkshire by the pupils should be the means of studying in a concrete way such features as (1) the ridge of raised land from Tadcaster to Stamford Bridge that joins the highlands of the East to those of the West, and formed the natural highway for travel by means of the ancient British track and later Roman road; hence the importance of York at the crossing of the Ouse; (2) the Aire gap in the Pennines, which takes the Midland Railway from Leeds to the West slope via the market towns of the upper valley, Skipton and Settle; (3) the position of the Great North Road from the South, which, placed above the 100' contour line, avoids the marshy low-lying lands

of the vale and the fordless parts of the tributaries that enter the Ouse; (4) the gap in the wolds cut by the Derwent, which joins the Pickering Plain to the Plain of the Ouse, and takes the railway from York to Scarborough via the Plain, and to Whitby via the Levisham-Goathland Pass in the North York Moors.

Every model of an area made by pupils should extend their geographical experience, and arouse thoughtful enquiry into it. There is no virtue in mere doing and making, except in the mechanical dexterity gained. Learning develops only by extending experience and by thought on it. Moreover, the making of models should be accompanied by their expression in the more symbolic form of maps, in order that the pupils may gain a command over this more convenient and universal language. When pupils can visualise a map with some approximation to real surface forms, map expression should entirely replace model expression as the usual mode of fixing geographical knowledge.

There is, however, a place for the construction of models of areas and of objects of special interest, such as—

(a) The Panama Canal, showing the Chagres basin, the Gatun dam and lock, the Calibre cut through the mountain backbone, and the entrance into the Pacific at Panama; the Alps, its passes, roads, railways, and gap towns; the Pennines, its passes, roads, and railways joining east and west slopes; the North-West Frontier of India; the Frontier gates between Germany and France, etc.

(b) Various kinds of dwellings, vehicles for travel, implements of agriculture, hunting, and warfare in different part of the world.

(c) Means of transport, *e.g.* a lock, a port with its docks, a large railway junction and goods yard, etc.

Such models of special interest could well be made by group efforts in the time for handicraft pursuits; the handicraft instructor working for this purpose in close connection with the teacher of geography as with other teachers. Several such models could be made every year, and so form a permanent collection of 'illustrations' to aid in the teaching of special areas and topics.

CHAPTER VIII.

APPLICATION AND USE.

1. The value of knowledge lies in its use, meaning by the term not only the application to the practical or utilitarian affairs of life, but also the more subtle influences of knowledge on our vision over, and insight into, intellectual problems and moral and social issues. The mere possession of knowledge, apart from its effects on our mental attitude, habits, and power, is an asset of little value; and unfortunately it is only too true that a learned man is not necessarily a man of broad vision, of generous sympathies, or of wise judgment. It is often said that knowledge is power. This is but a half truth. It is only a power when it has such vitality, becomes such an active habit of thought, and so enters into the interpretation and understanding of life's issues, that our interests are strengthened and expanded, our sympathies enlarged, our intellectual, moral, and social sensibilities quickened, and our judgment tempered to greater soundness. It is a sad criticism, but there is only too much reason for thinking that it is a sound one, that too often the knowledge gained by school instruction remains but a possession. It is like the miser's hoard of gold, gathered together and stored up, but never put into circulation to germinate fresh wealth and to stimulate fresh activity by its active

qualities. It remains a passive, inert, lifeless thing, easily accumulated, readily reproduced by a facile memory, and, a saving grace, as easily forgotten.

Use and application, then, are the ultimate tests of a teacher's teaching and a pupil's learning, and a teacher must exercise all his ingenuity in devising means for practising his pupils in the use of the knowledge gained, and his discretion in arranging exercises and examinations to test their power of intelligent and fruitful application.

To what kind of problems should the pupils' knowledge of geography be applied? In some studies
Outlook. the exercises for application and use are obvious. Thus a knowledge of mathematics finds a ready and immediate application to specific problems of the daily affairs of the household, to retail and wholesale buying and selling, to banking and insurance, to industrial appliances and processes, and to physical measurements in connection with mass, volume, force, velocity, and heat. Studies like literature, history, and geography stand in another class. There seem to be no problems of a definite and limited character to which the facts and ideas can find a direct and immediate use. The value of these studies lies rather in the mental outlook they induce, in the wider interests and heightened appreciation of the larger issues of the world and of life that come from their study, and in the more critical judgment that a right study of them cultivates; and exercises and examinations of a narrow and definite character fail entirely to evaluate the benefits. Rather must the teacher trust with patient faith and hope that the care and thought he gives to selecting and arranging the scheme of study, and to guiding and stimulating his pupils' learning, will have their due reward.

Throughout our whole discussion of aims, schemes, and

methods of teaching and learning we have stressed these wider ultimate values in the emphasis we have laid on the human outlook, on the appeal to imagination and sympathy, on the wide reading of human geographical literature, and on the training of pupils to attack problems rather than to absorb knowledge. To this end, too, we have subordinated the practical exercises and the more formal discipline of model and map making. We have looked on these not as ends in themselves, but as the handmaids to a right grasp of the world and its peoples, and a necessary discipline in the power to think accurately and to express thought with precise clearness. Throughout we have dwelt on the need for cultivating power of thought, but we have always seen it as a means to wide vision and sound judgment, for power of thought, as well as of hand, should be but the instrument of the spirit, and should be yoked to high and generous purpose. The ultimate end of education, as Ruskin so eloquently points out, is not so much to know what righteousness and justice and knowledge are, nor even to train the power to be righteous, just, and learned, as to bring up the young to hunger and thirst after these things.

To the attainment of these high and wide aims, however, lesser and subordinate ends are necessary. **Mental Power.** stepping stones, and vision and judgment are only to be reached through a knowledge of facts, a grasp of ideas, and the intellectual power to use them. Hence, while the teacher must keep his eyes fixed steadily on the ultimate values to be attained by his work, he will only attain them by taking due measures to ensure a sound knowledge of facts, a clear understanding of ideas, and a keen discipline of intellectual power. These immediate and more direct results he must and can devise means for testing in some form of exercises and examinations.

2. Facts are useful things, and, also, at times very useless. We cannot get on without them. **Facts and their Place.** Although they are not the be-all and the end-all of learning, they are the bricks with which the structure of knowledge is erected, and the material on which intellectual power is used. Hence, in our teaching we cannot ignore them, and must take measures to ensure a sound grip of them. All facts, however, are not of equal value. Some enter so frequently and so widely into our thought that we must get a permanent hold of them, know them as we know the multiplication tables. Such should be our pupils' grasp of the main central facts of the oceans and continents, their relative positions, the natural areas as determined by mountain chains and masses, river basins, seas, and climatic conditions, the outstanding products and type of life of each region, the great centres of industry and commerce, and the main routes by which commerce circulates. These constitute the skeleton framework on which our whole thought of world problems depends. We cannot think of any problem of the world and its people in which facts of this order are not pertinent and vital to right vision and sound judgment.

Some facts we may learn and forget. Their value is limited, local, and temporary. They have their day when some specific problem of some specific country and people is under enquiry. But, while we may take no special pains to ensure a permanent grasp of such facts, we must know where and how to get at them when we do want them. Our minds are not museums or dictionaries to be loaded with every item of knowledge which may at any particular place or time be valuable, but we must have the power to search a museum, or a dictionary, or other work, when it is necessary. Hence, there is a need, especially in

the study of a subject which teems with facts of every variety, to train pupils to use books and atlases for purposes of reference, *i.e.* to search in and use a reference library for the specific purpose of getting at facts, selecting and arranging them, and making use of them to solve some specific problem, but not necessarily to commit the facts revealed to memory. Exercises such as this should be an important part of the training in independent study among the older pupils; nor is it impossible to devise questions for examination papers which would permit of pupils referring to books and atlases in answering them. If this may seem a Utopian ideal to the teacher and examiner, may we say that the use of note books and other references is in practice at the degree examinations in at least one university. To set such questions, however, requires more intelligence and care than to frame questions to test the knowledge retained by pupils. Such questions must essentially test power to select, arrange, and apply facts to a specific problem. The usual form of question probes the memory of the pupils, and may probe nothing more.

Other facts, again, have a value so incidental that their purpose has been served when they have illustrated some point, or set off some comparison or contrast. Having served their turn they can be relegated to oblivion, thus freeing the mind for concentration on what is more vital. The concentration on learning masses of details which are merely illustrative tends to the hoarding of a mass of facts which clogs the understanding and clouds the vision for what is really important, unless the mind has a trained power and the innate aptitude of a Macaulay or Scott for organising them into an intelligent system.

The need, in dealing with facts, for clear vision, a sense of perspective, and a sound judgment in the teacher and

examiner of geography is of the first importance, for geography teems with facts and information of the greatest variety and of the most varied values. With regard to each main topic the teacher should make sure into which of the above categories any fact, or set of facts, should be placed. There should, moreover, be some understanding between teachers and examiners (so long as the present unfortunate system of external examinations in Secondary schools prevails) as to what facts are important and may rightly form the subjects of questions to test the memorised groundwork of the study. Those facts that form the necessary bricks of the whole structure, and especially those that form the corner and key stones, should be fixed in the mind by every device that educational theory and experience has found to be effective. Those that form the scaffolding and illustrative ornament can well be left to look after themselves. These considerations become all the more important when independent study by pupils finds a large place in the school plan of learning. Pupils, even the oldest, have not the experience or outlook to discriminate between important and unimportant. They tend to treat all information as of equal worth, and to commit all to memory. Learning by memory, rather than by understanding, is, too, a weakness of all but the most intelligent. Hence guidance and training in this form of study is very necessary if the pupils' minds are not to be overloaded with facts and memory made the principal agent of learning.

Effectiveness in memorising, as in other activities, is relative and suggests the query:—effective for what purpose? Methods that are effective for mechanical reproduction of what is learnt are not necessarily effective for recall for intelligent use; and, as we have seen, use is the true test of know-

**Memorising
Facts.**

ledge. To learn by rote "New York is the capital of the United States and is on the Hudson" will assist mechanical recall; but to fix New York and its position so as to recall them for intelligent use demands a less mechanical process. For the latter purpose we need to look at New York in many ways, grasp its connections with many other things, and express each in a way that emphasises the connection. For example, let us examine, why it is called New York?; why the river is called the Hudson; why the settlers planted their settlement on Manhattan Island; what advantage the land-locked estuary gives to New York; what opportunities for ocean commerce its outlook and position on the Atlantic give to it; what routes the



Fig. 3.—NEW YORK. At the mouth of the Hudson River. Protected from attack by Indians. Sheltered from Atlantic gales and attack by Sea. Has expanded round all the shores of the landlocked harbour.

Hudson and its tributaries make with Canada and Montreal and with the Great Lakes. Let us now express these in a map, or series of maps, that emphasises these connections. To do these things is to see New York in many aspects, to grasp its connections with many other places and events, and to fix them in the mind by visual map images that aid clear apprehension and facilitate ready recall. In this way there

are many avenues of thought approach by which New York can be recalled, and recalled in contexts appropriate to whatever problem we are considering.

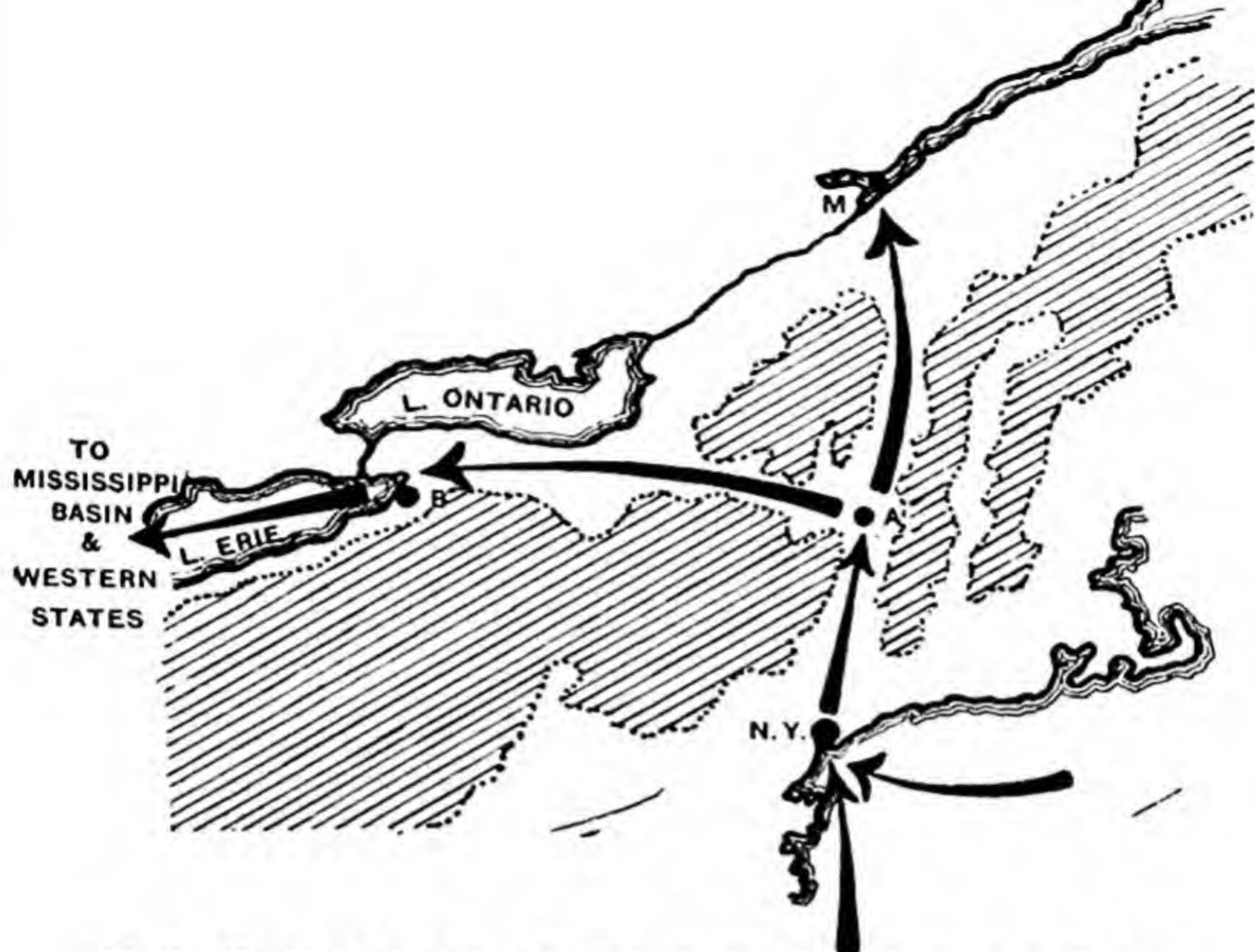


Fig. 4.—NEW YORK gives easy access (1) to Canada at Montreal via Hudson River and L. Champlain (2) to the North Mississippi Basin via Mohawk Gap and the Great lakes.

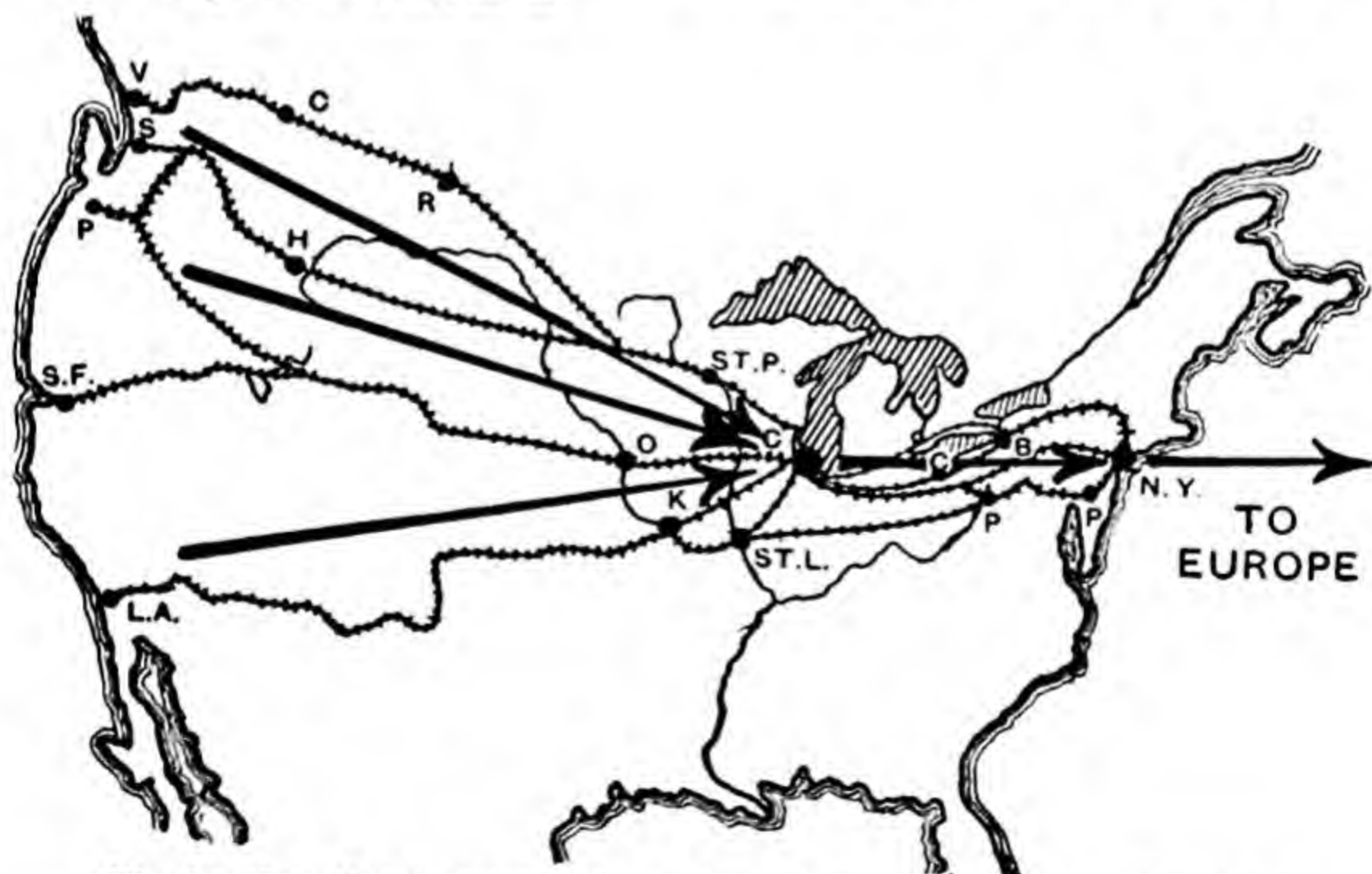


Fig. 5.—NEW YORK receives the products for export from the West from Seattle to San Francisco via CHICAGO. Branches from Vancouver in CANADA and from Los Angeles in CALIFORNIA converge on CHICAGO and so to NEW YORK.

Figs. 3, 4, and 5 indicate how the above facts about New York may be fixed in the memory by map images.

3. While a thorough memorising of important facts is one aspect of the learning of them, a right understanding of them is equally vital. Isolated facts have no value. They are the dross of knowledge. A fact derives its value en-

The
Understanding
of Facts.

tirely from the way our intelligence grasps it in its relation to other facts. It must be placed in an intelligible context. In building up knowledge the bricks must be placed in some kind of organised relation to each other. Knowledge is a system, not a pile or a heap, of facts. For example, "Flamborough Head is a large headland on the east coast of Yorkshire, is composed of chalk, and has a lighthouse placed on it," is a collection of facts isolated from their connections which alone will give the facts intelligent significance. To learn these facts and fix them in the mind in this form is like sticking pins into a pin-cushion. It was the learning of piles of isolated facts such as these that made the old methods of learning geography such a drudgery to pupils, and, it is to be feared, that the newer methods of teaching the new geography are not altogether free from the taint. The facts are different, but the old method of learning persists.

To grasp facts intelligently we must grasp them in their relation to other facts, so that the whole set of facts hangs together as a rational system. Thus when we grasp that the chalk wolds of Yorkshire, which form the eastern boundary of the York alluvial plain, after a northerly course take a quick bend to the east and end abruptly at the sea, we grasp the headland of Flamborough in its relation to the chalk formation of the East Riding. The relation of Flamborough Head to the prevailing North East gales makes of Bridlington Bay a place of shelter,

and explains the presence of a harbour there for local fishing. The prominent position of Flamborough Head jutting far out into the sea, makes of Flamborough Head a prominent landmark for shipping passing north and south. Hence the need of a lighthouse to guide shipping during the hours of darkness. The above account of Flamborough Head has placed the facts of the headland into a number of systems of knowledge, and related them to other facts so that they have taken their places in intelligently ordered systems of knowledge. It is in this way that facts should be presented to pupils and learnt. Facts that cannot be brought into intelligible relation with other facts to form a rational system have no value. The key note to intelligent understanding is the formation of rational systems; and the more systems into which a fact can be woven the more meaning and value has the fact and also the more living interest.

As a further example of the principle of teaching and learning facts in intelligible relation to each other may we take the case of Chicago.

Four facts about Chicago stand out as sufficiently important to warrant thorough memorising. They are—

- (1) It is a great wheat and cattle mart.
- (2) It is an industrial centre for the manufacture of agricultural implements.
- (3) It is a commercial entrepot for the lake and river trade.
- (4) It is a great railway centre connecting New York and the Atlantic cities with the Pacific coast from Seattle to San Francisco.

As they stand these are isolated facts divorced from the systems that give them understanding. To grasp them intelligently we must see Chicago in its relations to the economic activities that its position bears on. First, there

are the great wheat and cattle lands to the immediate west, the greater part of the produce of which is grown or bred for export to the industrial east or to Europe. Chicago, on the rail route to the east, and also a lake port in connection with Montreal and New York, is most conveniently situated to act as a market for the produce of the western plains. To understand Chicago as a manufacturing centre we must grasp its relations to the iron mines of Lake Superior, and the coal fields of Michigan and Illinois. With the former it is in direct connection by water; with the latter it is easily connected by rail. Chicago, therefore, is excellently situated for becoming a manufacturing town, and the need of the agricultural west determines the nature of its productions. Its importance as a commercial entrepot is grasped when we see its position in relation to the lakes and to the Mississippi river system. The Great Lakes with the Erie Canal form the water highway by which the North American Continent is penetrated from the Atlantic; and the Mississippi river navigation forms the natural highway for commerce in the Mississippi Basin. Chicago stands on the Lakes central between East and West, and in the near neighbourhood of the head of the Mississippi navigation. As a great wheat and cattle market, and as an industrial city, it is thus excellently situated to act as a commercial entrepot for a widespread distribution over the Mississippi, or for an exchange between the western plains and the eastern industrial centres and Atlantic ports. Lastly, Chicago becomes a railway centre because of its position. The lakes form a barrier to the railways going east and west. A railway must either pass to the north of them or to the south. Hence in negotiating the obstruction the United States railways from San Francisco to Seattle converge on Chicago, the most southerly town of any importance on the Lakes;

and from Chicago lines diverge east to Montreal, New York, Philadelphia, and Baltimore. Further, as the medial city at the northern end of the Mississippi basin, with a water outlet to the Atlantic, it acts as the northern

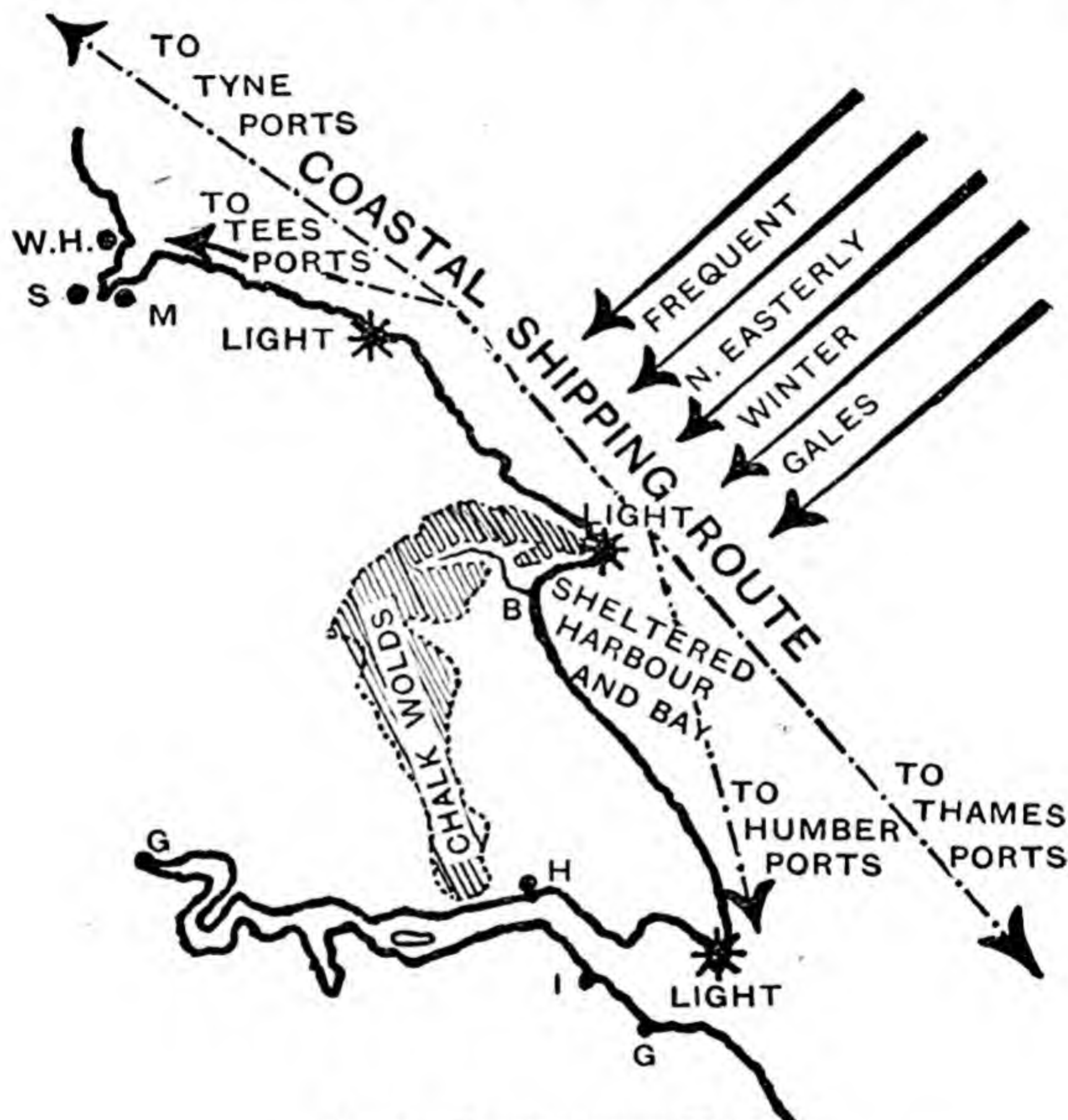


Fig. 6.—FLAMBOROUGH HEAD.

terminus for the railways running respectively on the east and west sides of the Mississippi from New Orleans the southern terminus.

The understanding of facts lies, then, in a grasp of their relations to each other, but in geography such relations depend largely on factors of relative position. To grasp these factors of relative position clearly they should be set forth in graphic form in a map so that the intelligence may use the map image as its instrument for thought and for recall.

For example the system of facts regarding Flamborough Head may be clearly grasped and memorised in the map summary on previous page (Fig. 6).

The following map summaries (Figs. 7, 8, 9, and 10) exhibit the spatial relations of Chicago, and indicate the system of connected facts that account for its commercial and manufacturing importance.

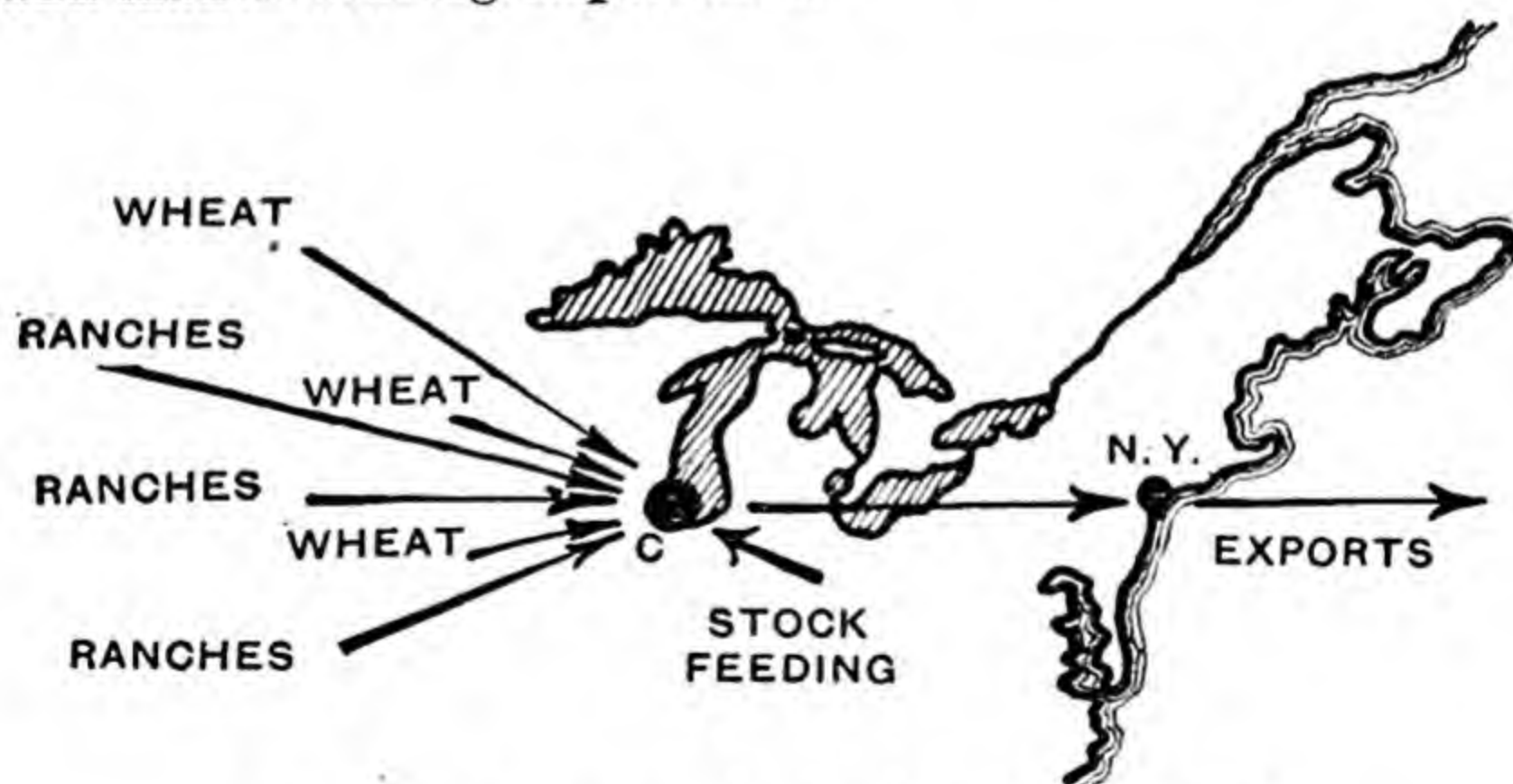


Fig. 7.—CHICAGO. A wheat and cattle mart.

Such map summaries should, as we have seen, be drawn by the pupils to systematise and to memorise their learning in an intelligent way. Not only should the map summaries be made to illustrate their notes, but should be used also to illustrate their answers to questions and their

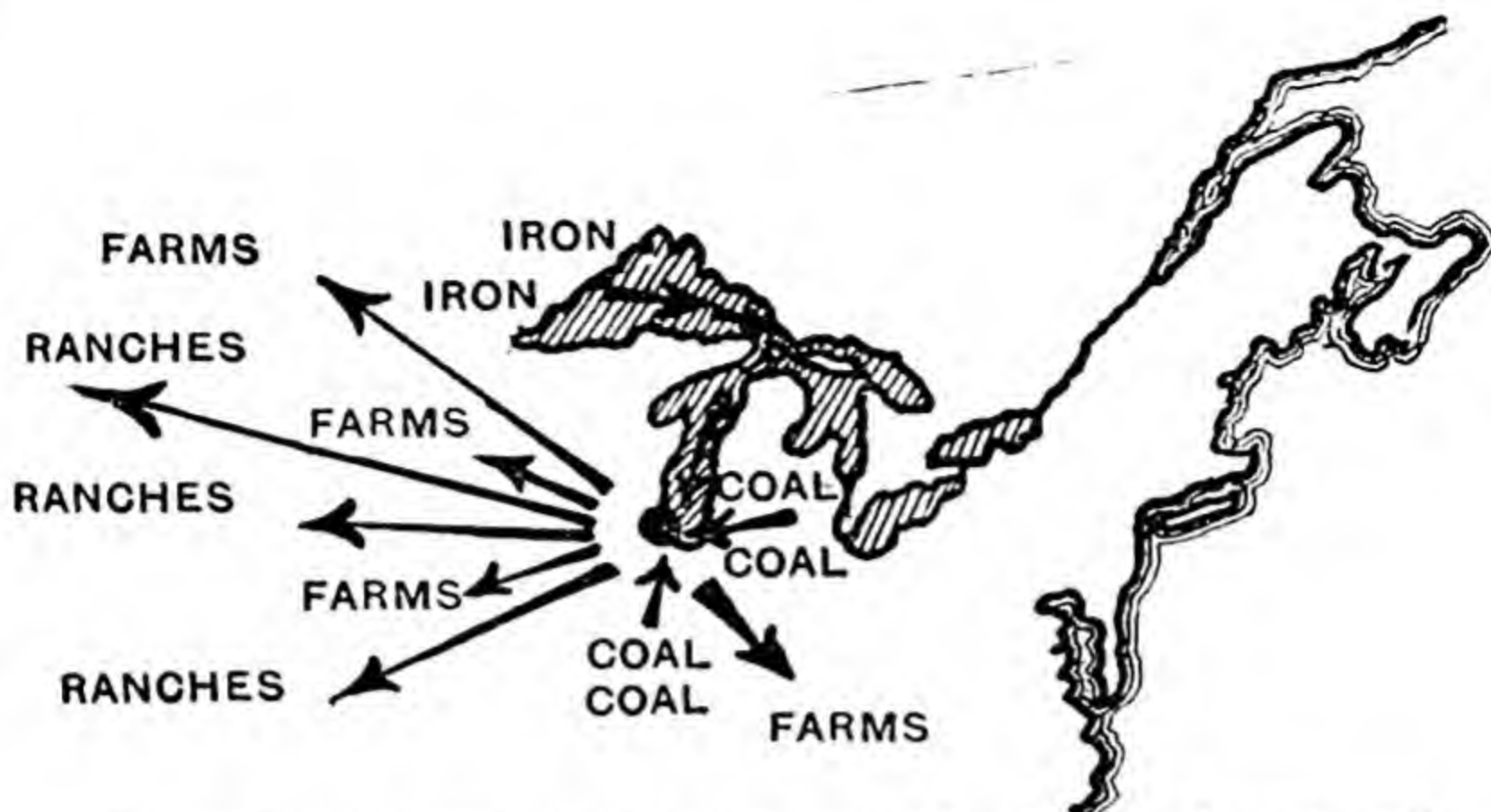


Fig. 8.—CHICAGO.—A manufacturing centre for farm implements and machinery.

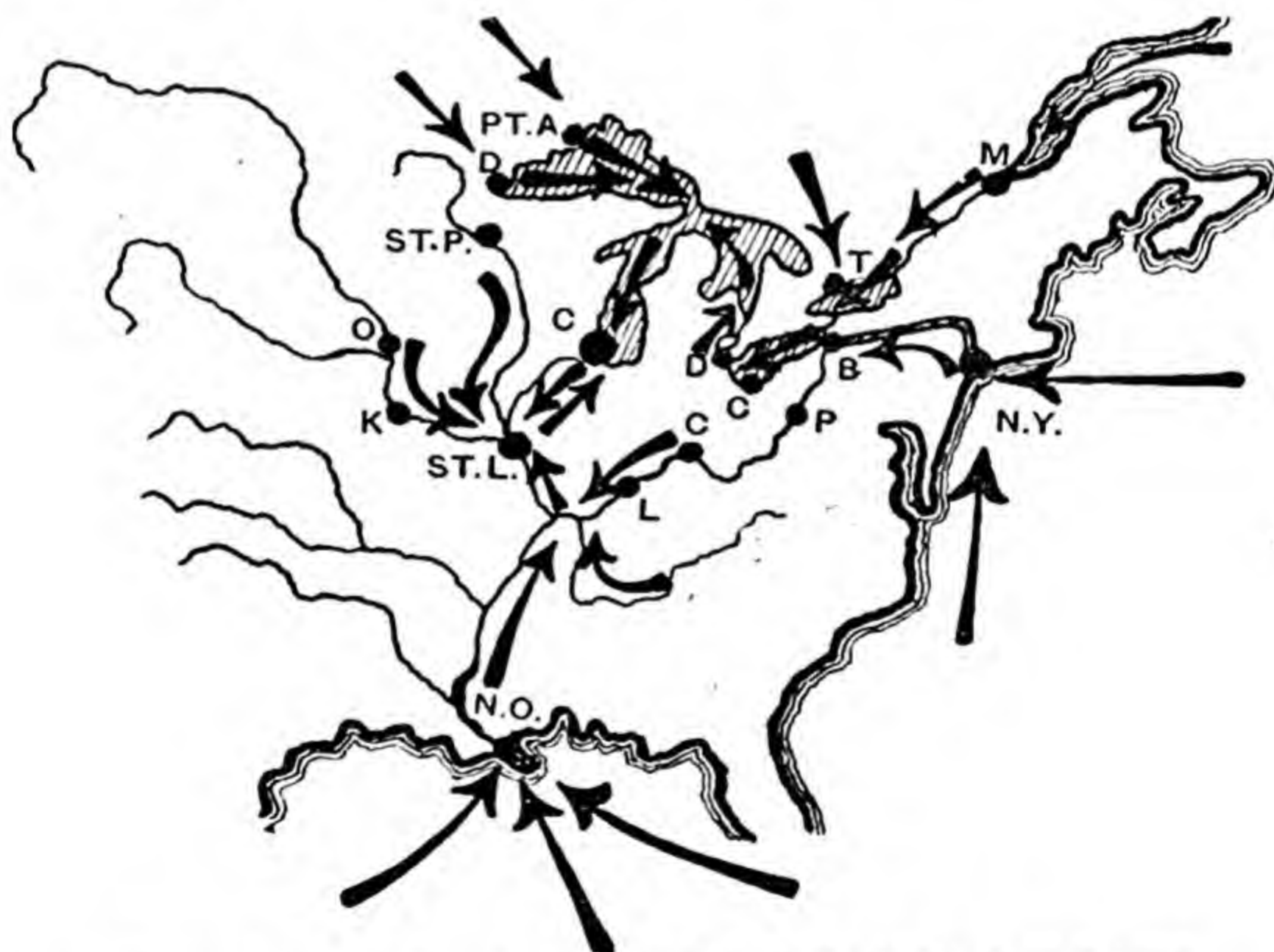


Fig. 9.—CHICAGO.—The Great Lake Port of the Middle West in touch with New York, the Atlantic Port by the Erie Canal; in touch with St. Louis the Mississippi River centre; in touch with Pt. Arthur, Detroit and Toronto, the Lake Ports that give access to Canada.

essays on geographical topics. There is no quicker, surer, and clearer way of grasping, fixing, and recalling geographical systems of facts than by drawing such maps, and their use should be made habitual in the learning,

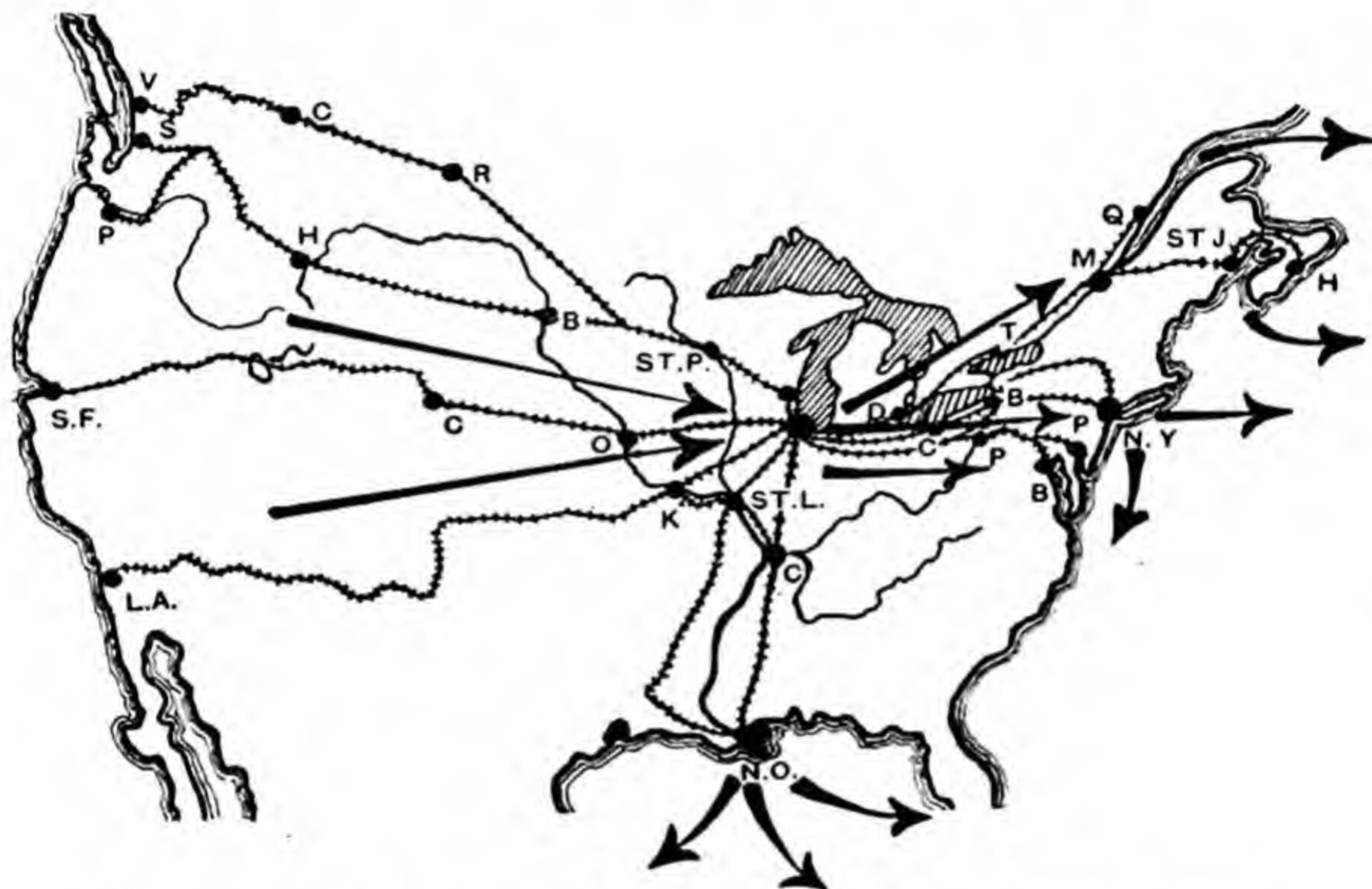


Fig. 10.—CHICAGO. A railway centre. 1. The Western Railway lines from Seattle and San Francisco converge on Chicago with branches from the lines from Vancouver and Los Angeles. 2. From Chicago the lines diverge East to Montreal via Detroit and Toronto, to New York via Cleveland and Buffalo and to Philadelphia and Baltimore via Pittsburg. 3. Chicago is the Northern Terminus of North and South railways in the Mississippi Basin.

testing, and examining of geographical knowledge. The power to think in map images and to “write” and “compose” in the appropriate geographical language of maps is a part of the necessary discipline in the learning of geography, as is the power to draw graphs in the learning of mathematics.

4. Any explanatory system of facts, such as the above, has, however, but a local and temporary value. It can be applied only in problems to which the facts are relevant. It would be but a narrow view of education to conclude that geographical training consisted solely in grasping and memorising an endless series of such fact systems with regard to all the countries and peoples of the globe. While, however, any system of facts has but a limited application, it exemplifies general ideas of universal application. Every causal relation connecting facts is an implicit universal, which may find exemplification in many diverse ways. Thus the facts about Flamborough Head illustrate principles of coast formation and of the position of harbours for shelter; and these principles are exemplified in one form or another in numerous instances in every country in the world. To have grasped these principles with explicit clearness in one case is to have gained a mental tool with which similar cases in other regions may be attacked and readily interpreted.

The permanent value to the mind in the study of any system of facts, then, lies in grasping explicitly the universals that are implicit in the relations between the facts, and in using these general conceptions to attack new problems of a similar nature. It is by the grasp of general conceptions that the mind gains comprehensive vision and incisive insight into the many diverse forms of physical and human phenomena throughout the world; and it is by its use of such conceptions in attacking new problems that it gains the power of judgment in dealing with them. Such conceptions, ideas, principles, concerning physical formations and human life and activities form, as they accumulate, the armoury of mental tools by which problems of human life in the various regions are sur-

veyed and analysed. Every new diverse form examined adds clearness to the mind's grasp of its ideas, to the breadth and richness of the concrete background that illuminates them, and to the readiness with which the mind can exemplify its ideas in many diverse ways or recognise principles when disguised in intricate and complex forms.

Intellectual power, therefore, rests on a clear grasp of general conceptions, in becoming familiar with them in many forms, and in using them in the analysis of new and diverse problems. The cultivation of this power is of the first importance in the training of the mind, and to practice it and test it by exercises is a first duty in the teacher and examiner.

5. A study of the tests usually set by teachers and examiners in geography leads one to surmise that neither have yet realised the importance of training and testing intellectual power. The questions mainly test the pupils' possession of knowledge and their understanding of it. However such questions are framed memory is the main mental power that is appealed to. Some questions test mechanical memory; others test the memory of the pupils' understanding of facts. Both these powers, as we have already granted, are important in the hierarchy of learning. Important facts must be known, and important systems of facts must be understood and memorised. Teachers and examiners, however, should fly at higher game than this. What would be said of the teaching and testing of mathematics if exercises and tests were confined to problems that had always been gone through in class? The power to grasp ideas and to use them in solving the unknown is the mark of any study that claims to be a valuable intellectual discipline. Hence, exercises and examination tests

**Examination
Tests.**

that appeal to this power should find a prominent place in the system of geography training.

Such exercises and tests may take one of two forms:

First, to examine a series of facts and discover the general conceptions they exemplify, *e.g.* examine the position of the following towns:—Belgrade, Salonika, Genoa, Milan, New York, Chicago, and say what seems to be the general conditions that influence the rise of a commercial centre.

Second, to apply ideas already known to topics not previously studied, *e.g.* examine the map of Lombardy (supposed not to have been previously studied); note the positions of its main cities in relation to the river Po and the surrounding mountains, and endeavour to account for their position.

In the answering of such questions the free use of atlases containing contour, climatic, and regional maps should be encouraged; indeed one might say that the exercises and questions should be framed so as to demand the free use of these necessary tools of geographical enquiry and thought.

From the foregoing discussion of the place the various kinds of knowledge and the various kinds of mental activities have in the hierarchy of learning it is clear that facts, systems of facts, and ideas have each their part to play in developing vision and insight, and that memory, understanding, and judgment play corresponding parts in the development of intellectual power. In any comprehensive series of exercises, therefore, and in any comprehensive examination paper, all forms of knowledge and all forms of mental power should be appealed to.

There should be exercises and tests of—

(1) Mechanical knowledge of the most essential and fundamental of facts.

(2) Understanding of facts in relation to each other,

and the power to select from such facts, and to reorganise them to serve some particular purpose.

(3) Grasp of general principles and the illustration of them from examples already studied.

(4) Power to use general ideas in attacking topics not previously studied.

In the three latter forms the exercises and tests should be framed to encourage the use of maps for purposes of reference and enquiry ; and in the first form the filling in of blank maps or the drawing of simple maps from memory should be frequently demanded. In all forms of exercises and tests the " map illustration " should be demanded.

The arrangement of examination tests on these lines would tend to discourage the cramming of information from text-books for the express purpose of retailing it to examiners for marks. Such cramming is not necessarily unintelligent, *i.e.* it is compatible with understanding of what is learnt ; it is, however, incompatible with independent thought and the exercise of judgment. With the average pupil, however, such learning tends to become largely mechanical, especially when there is a system of independent self-learning. Memorising is easier than understanding, which, too, is on a lower plane than independent thought. The aim of a series of exercises, or an examination paper, should be to bring into play every legitimate activity needed in learning in its due place and degree, and to see their culmination in the display of intelligent power in problems demanding initiative, independent enquiry, and judgment.

6. Knowledge and understanding of facts, a grasp of ideas, and the intellectual power to use them are, however, only the stepping stones to the ultimate end of vision and judgment, appreciation and interest in regard to the problems of the

The Outlook
on Life.

world and its people. While the former can be practised and tested by various forms of detailed exercises the latter cannot develop by such means. Yet the teacher can devise means to encourage their free growth and expression by means less formal and, probably for that reason, more powerful. In adult life we show our interest in, and appreciation of, world problems by the way we study the foreign news in the daily papers, by our desire to read articles on foreign topics in the more serious journals, and in the reading of contemporaneous literature about other countries and peoples. It is by such means that there is brought about an enlightened public opinion on world problems. If we have any trained power of judgment we do not merely absorb the views of the writers and deliver them parrot-like to our friends, although many do not get beyond this low stage of passive absorption and transmission. With a power of independent judgment we seek to make ourselves acquainted with all the relevant facts, and then exercise our own judgment guided by the general principles and ideals that dominate our outlook on national and world questions. Our interest in such questions leads us to discuss and debate them with our friends, and even at times to express our views in a letter to the press or to our local Member for Parliament. These seem to be the natural modes of showing our interest in world topics. Some such means we should devise for school purposes.

When the pupils become mature enough the leaders and articles on foreign affairs should be read and discussed by them. The geography reading room should be supplied with good newspapers such as the *Times* and *Manchester Guardian*. The occasional supplements of these papers on economic and political affairs of foreign peoples are most valuable. Articles and leaders of special

value should be cut out, pasted on suitable paper, and filed. In a certain sense the aim of school geography may be said to be the training of an intelligent interest in, and study of, the newspaper; for it is mainly through the newspaper that we keep in touch with other peoples.

One at least of the more serious journals and the best of the contemporaneous literature on foreign questions should be available either through the school library or by arrangement with the local public library.

Periodically as occasion arises the teacher should arrange to discuss in class some important problem, and also from time to time the pupils should hold a more formal debate among themselves after due preparation. They are old enough, too, to write letters and articles on such problems, and the school or class journal is the natural organ through which they should find a public. By such means, used wisely and well by the discreet teacher, an outlook and interest on the world at large will be fostered and stimulated.

We cannot too strongly emphasise, as we have done throughout, that true education will lead the pupil by the line of his natural interests, aptitudes, and powers to an intelligent interest in, understanding of, and power over, the problems and duties of life. Education is to assist nature to unfold itself in its highest form of expression in relation to the activities of a full and complete life. The great failure of schooling, as it is too often organised at present, is that its instruction is largely academic and scholastic, and divorced from the affairs of life. As a result both teacher and pupil see the climax of the school instruction in an academic examination that culminates the scholar's school career, and too often terminates his interests in, and thought of intellectual studies. He leaves school to take up new interests and new lines of thought,

mainly in business and sport. As the school has not awakened either interest, vision, or power to think about the wider affairs of the nation or humanity at large the pupil contents himself with the news headings and paragraphs of the press, and takes his opinions about world affairs from the leaders of his favourite daily. The school has given him knowledge without vision, knowledge without ideas and power to use them, knowledge without interests and appreciation. It has failed in its true purpose to bring the pupil into real touch with his environment and to develop the power and spirit to deal effectively with it. Only when the school, through the character of its instruction, its pursuits, its societies for discussion and debate, its journals for the public expression of its pupils' ideas and opinions, its library and reading rooms, its active touch with and participation in local activities, seeks to lead the pupils to a full life in growing touch with the life of the world around will it rid itself of the taint of academic scholasticism, and accomplish the great work it has to do in preparing the youth of the nation to face with intellectual power and with the right spirit the wider issues of life, of the nation, and of the world at large.

APPENDIX I.

The following Outline Summaries are given to serve as an indication of the manner in which some of the topics in the scheme outlined in Chapter III. might be developed. They may also serve as specimens of the way in which topics may be summarised in a brief form. Two main topics are dealt with:—First, the development in early times in the Mediterranean Area by the Egyptians, Phœnicians, Greeks, and Romans; second, the development in North America from the early settlements on the Atlantic Coast to the Advance across the Plains and Rockies to the Pacific.

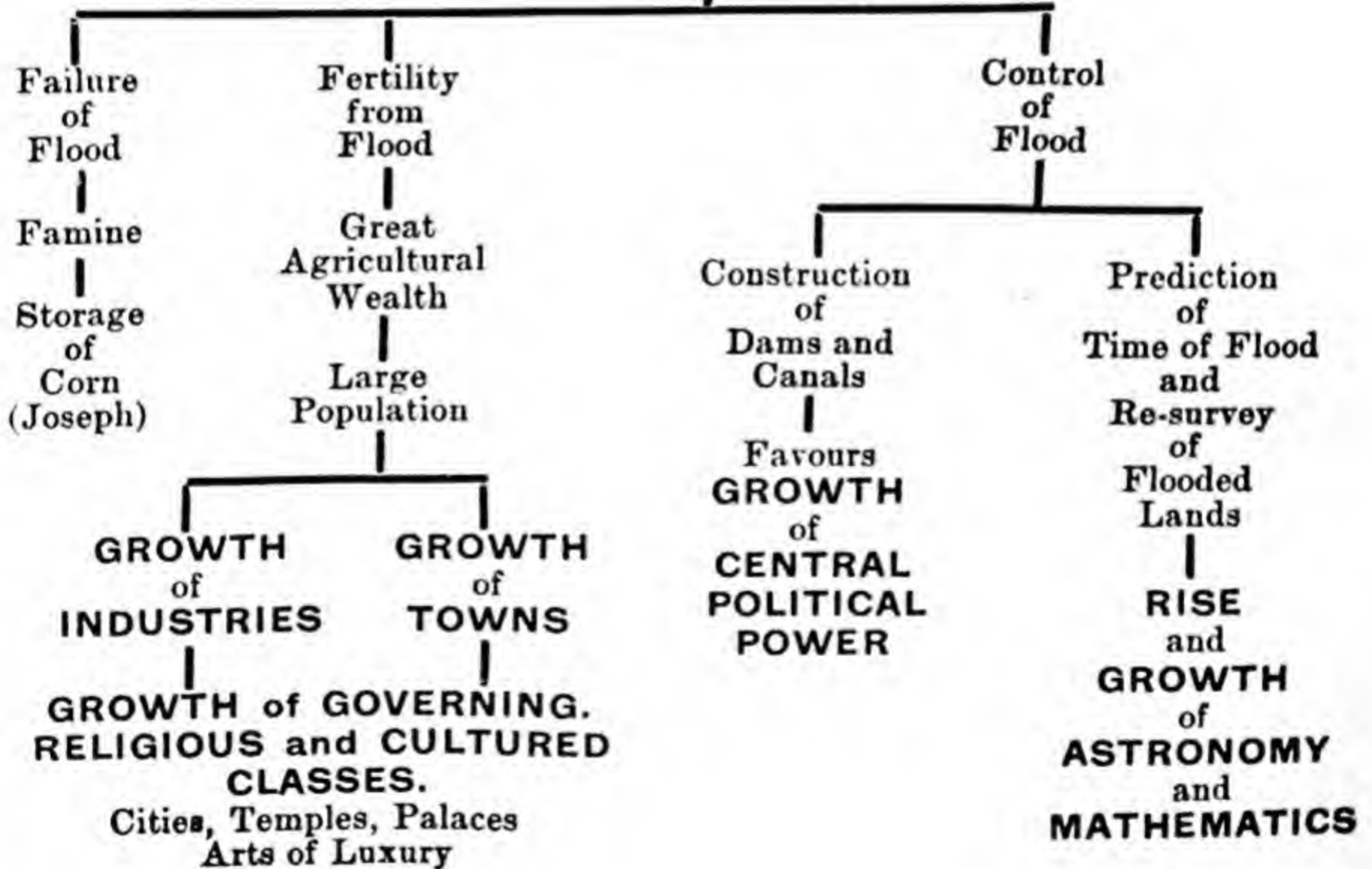
EGYPT

INFLUENCES ON DEVELOPMENT

(I)

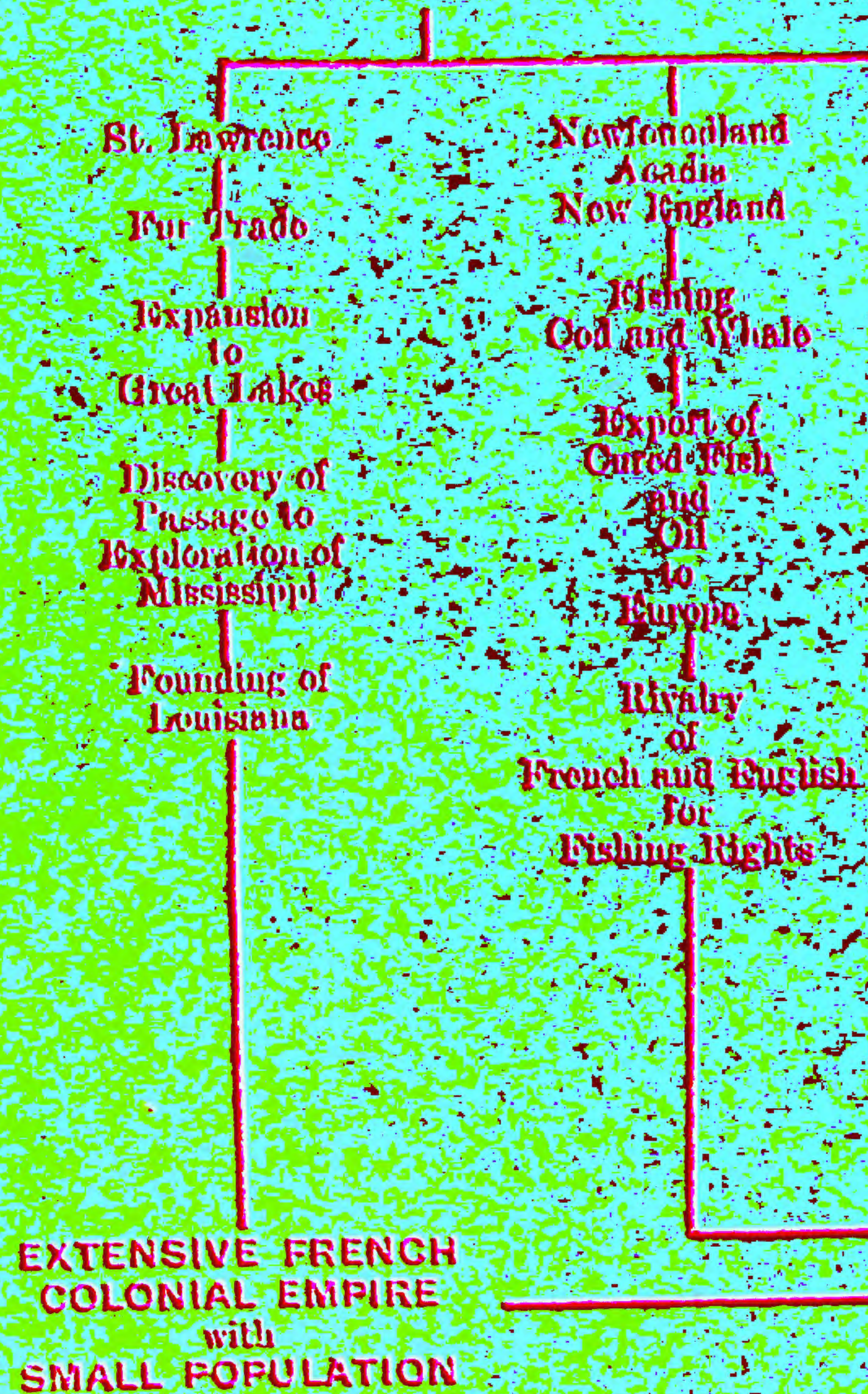
NILE

ANNUAL FLOOD
renews soil yearly

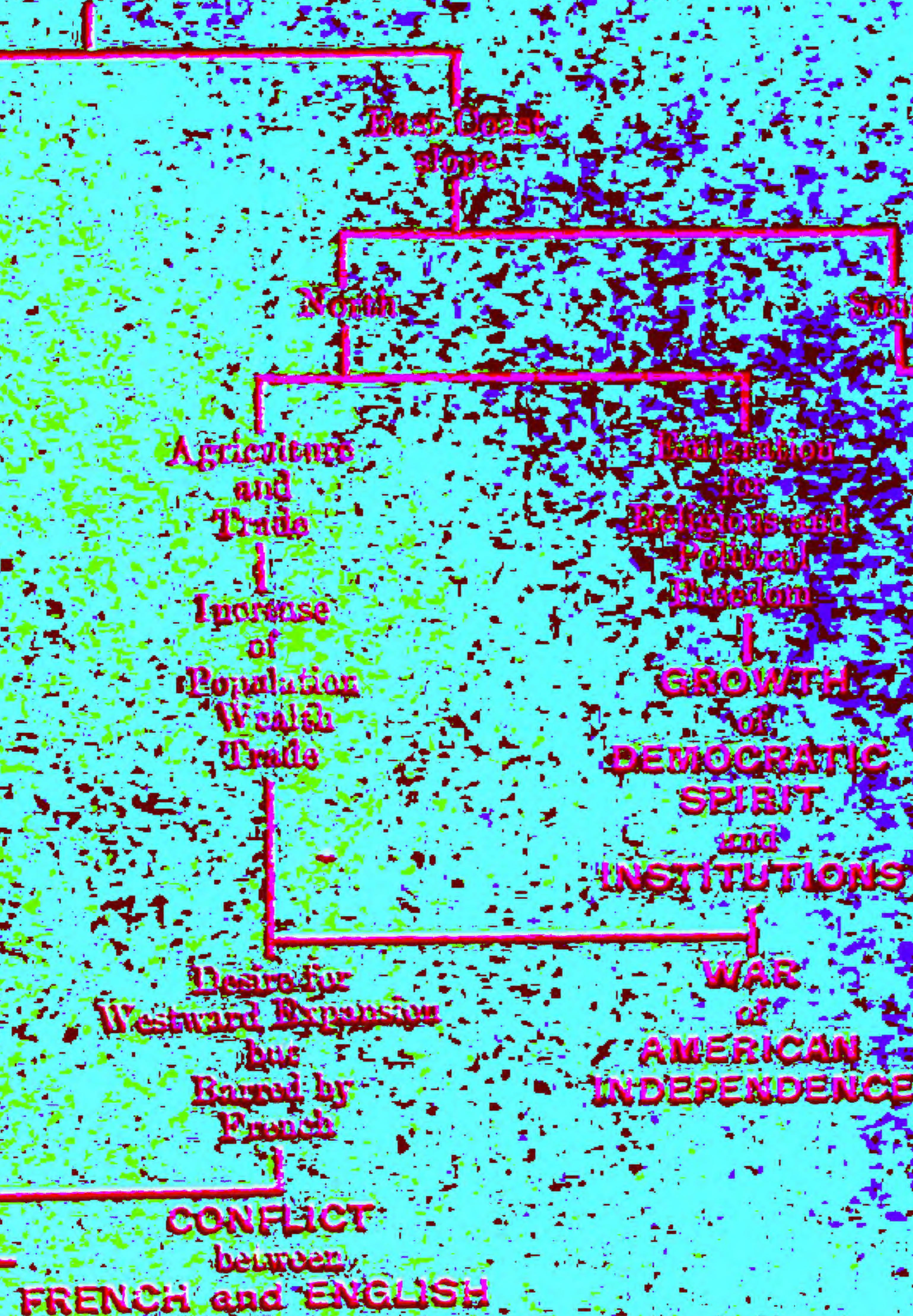


EUROPEAN SETTLEMENTS IN AMERICA

FRENCH



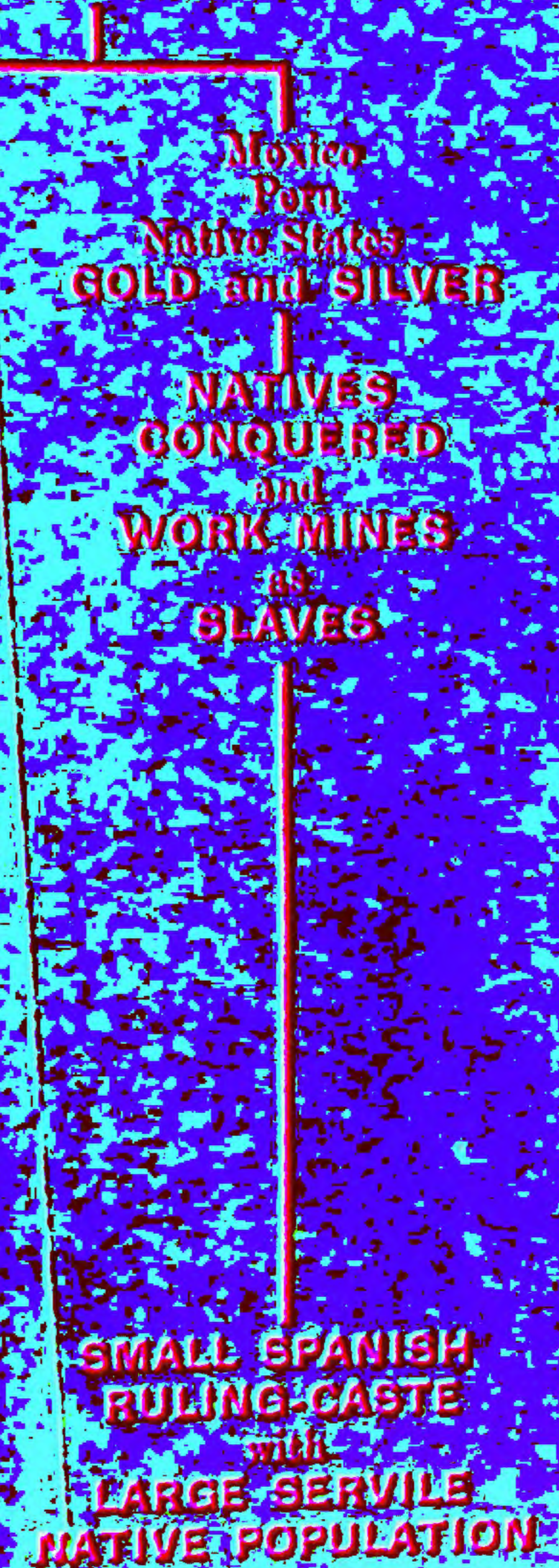
ENGLISH



PORTUGUESE

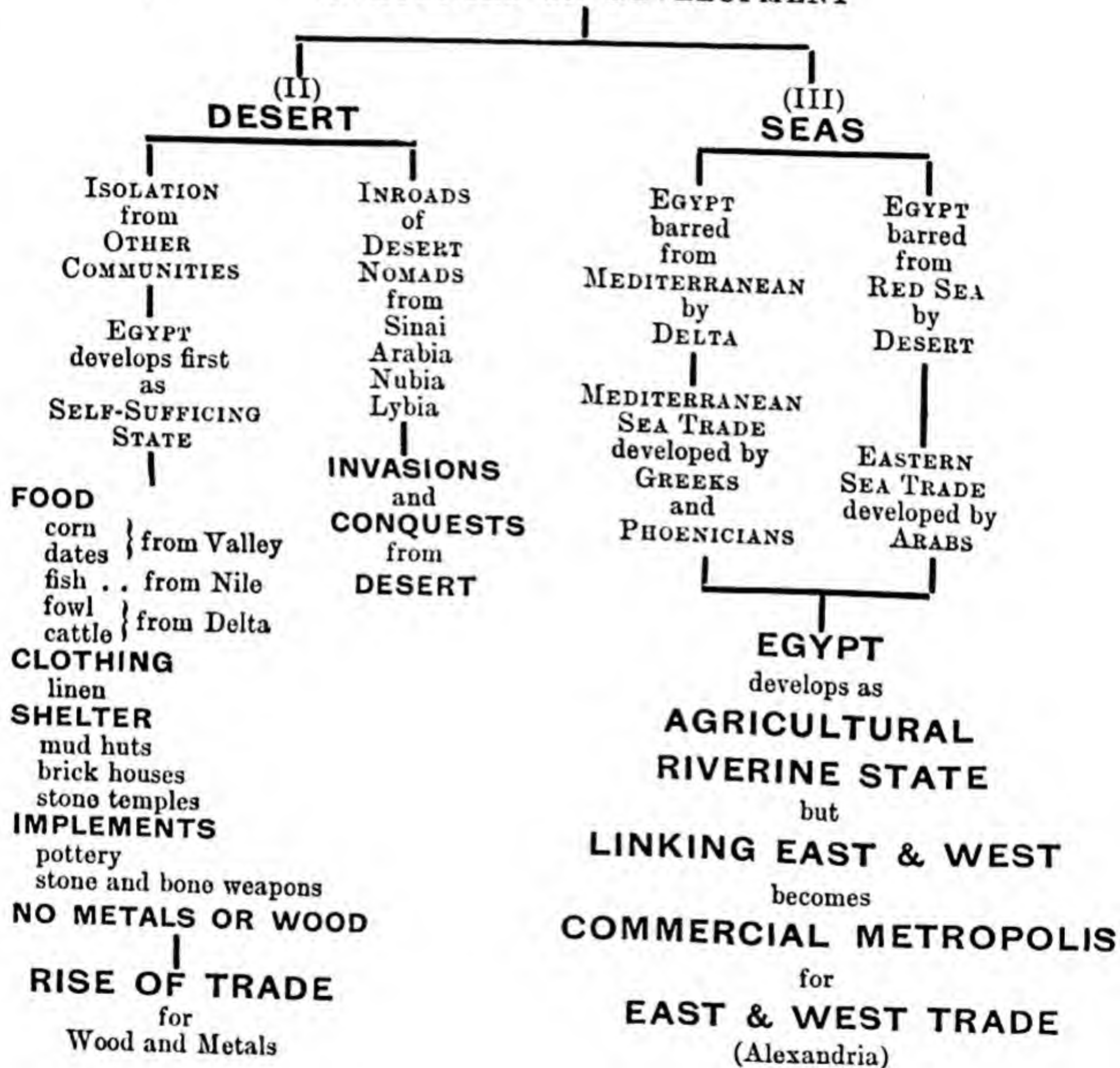


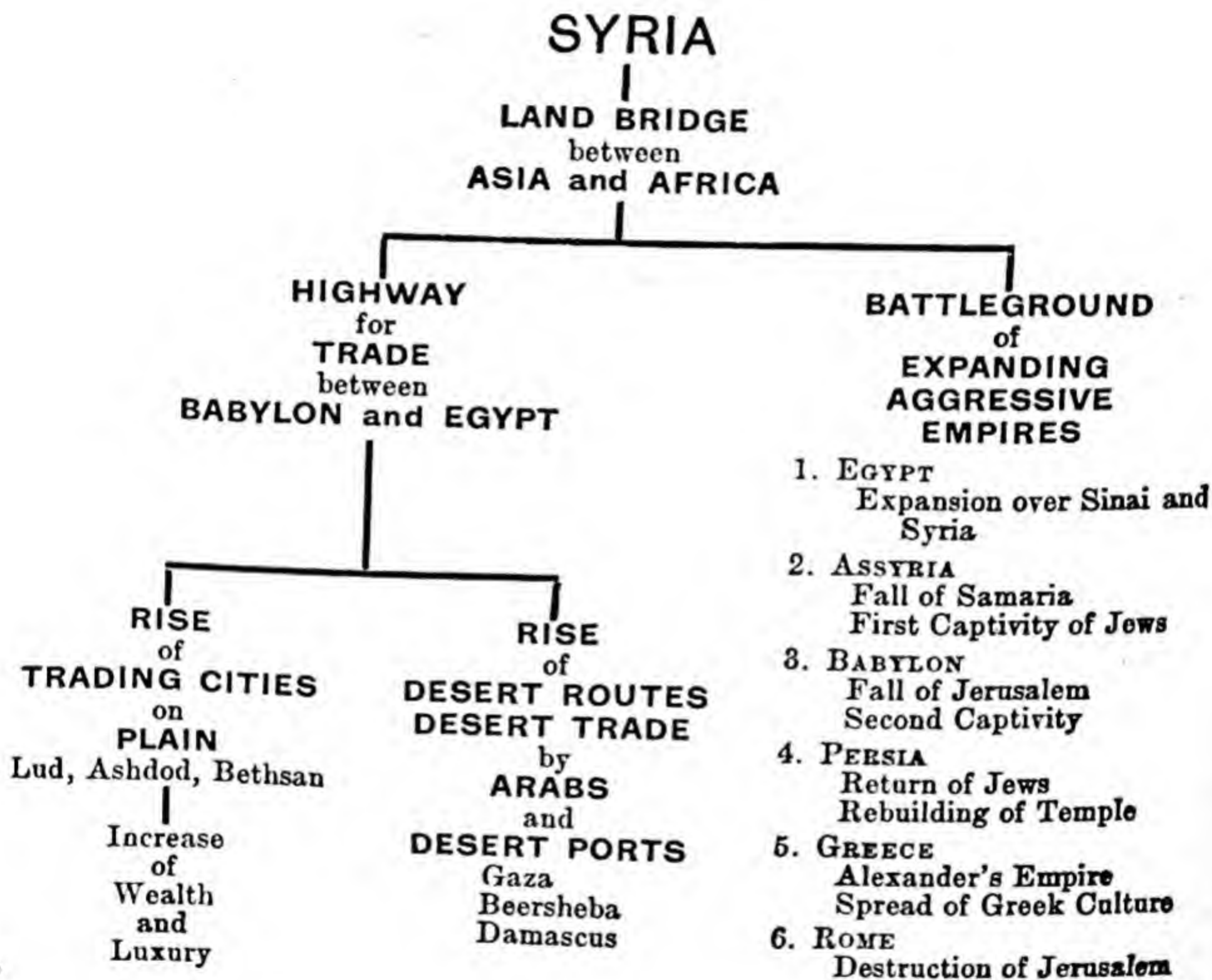
SPANISH



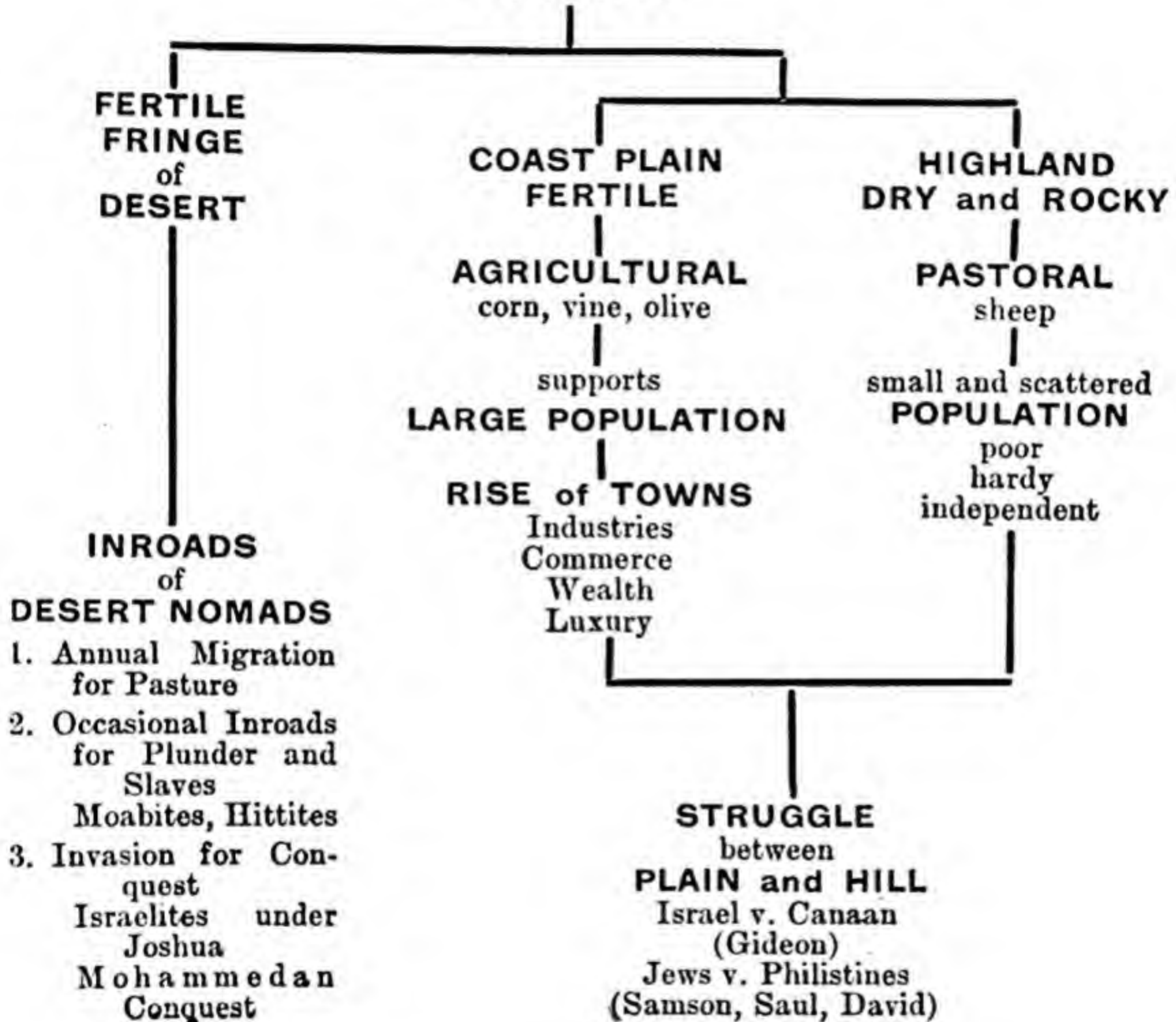
EGYPT

INFLUENCES ON DEVELOPMENT

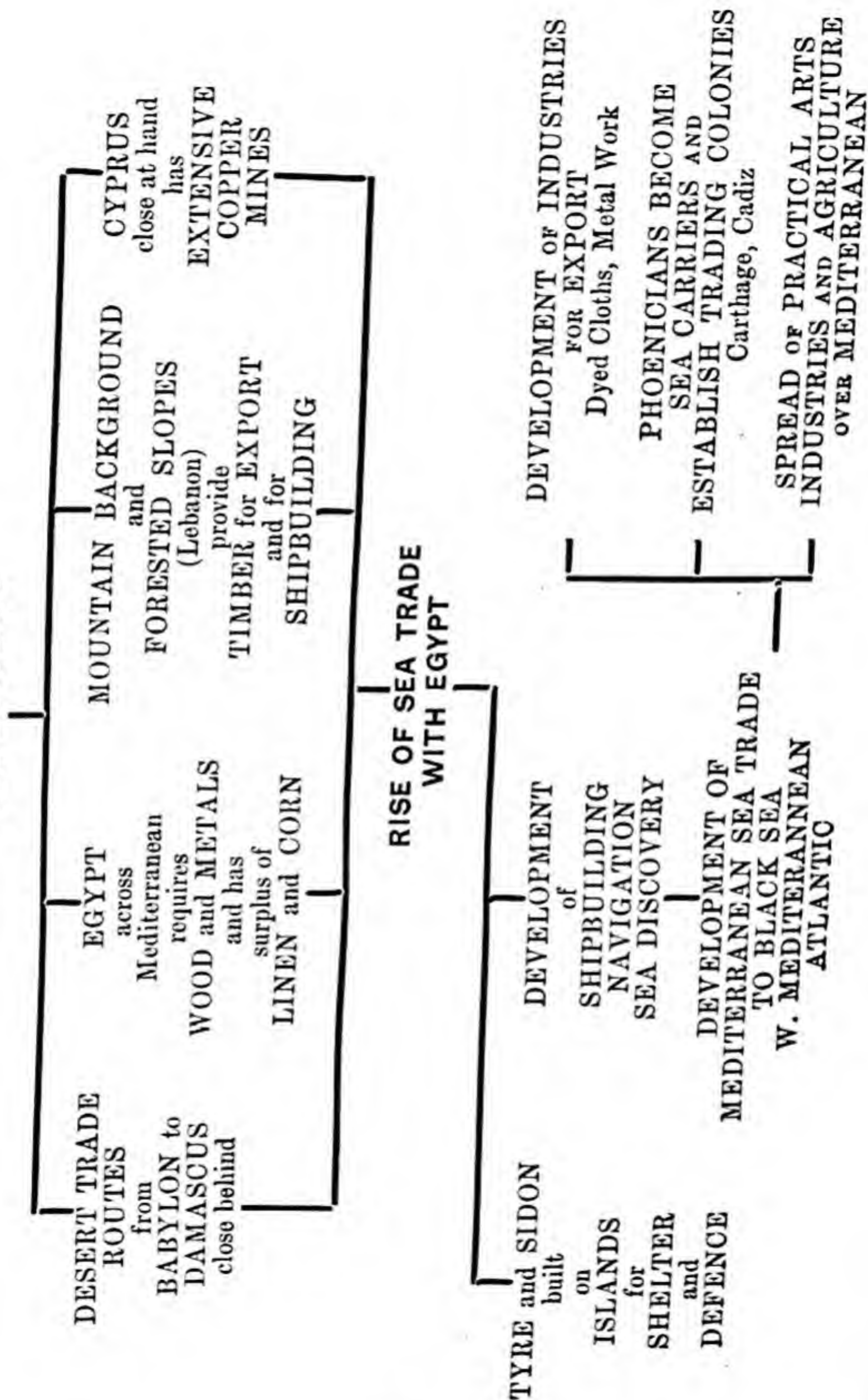




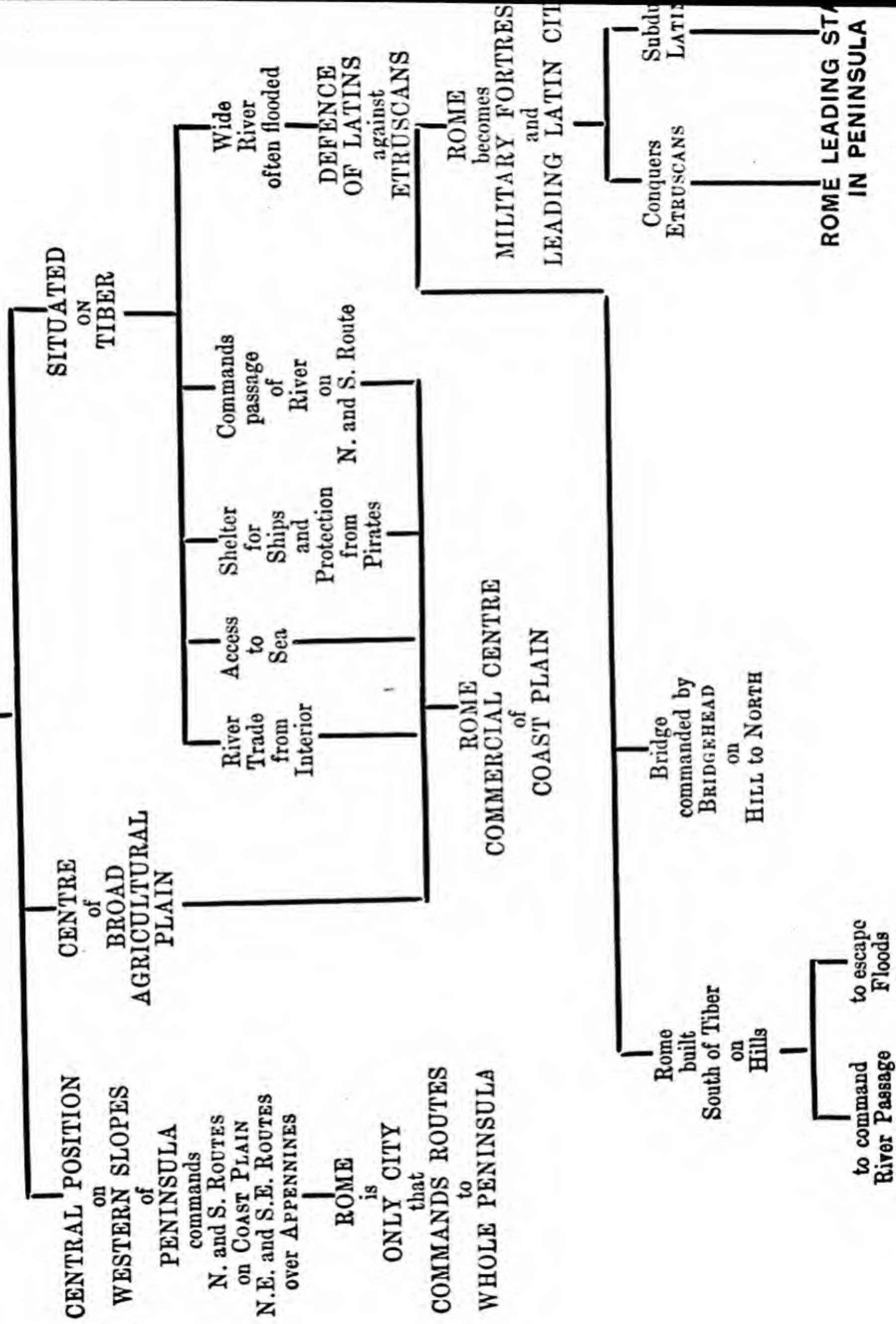
SYRIA



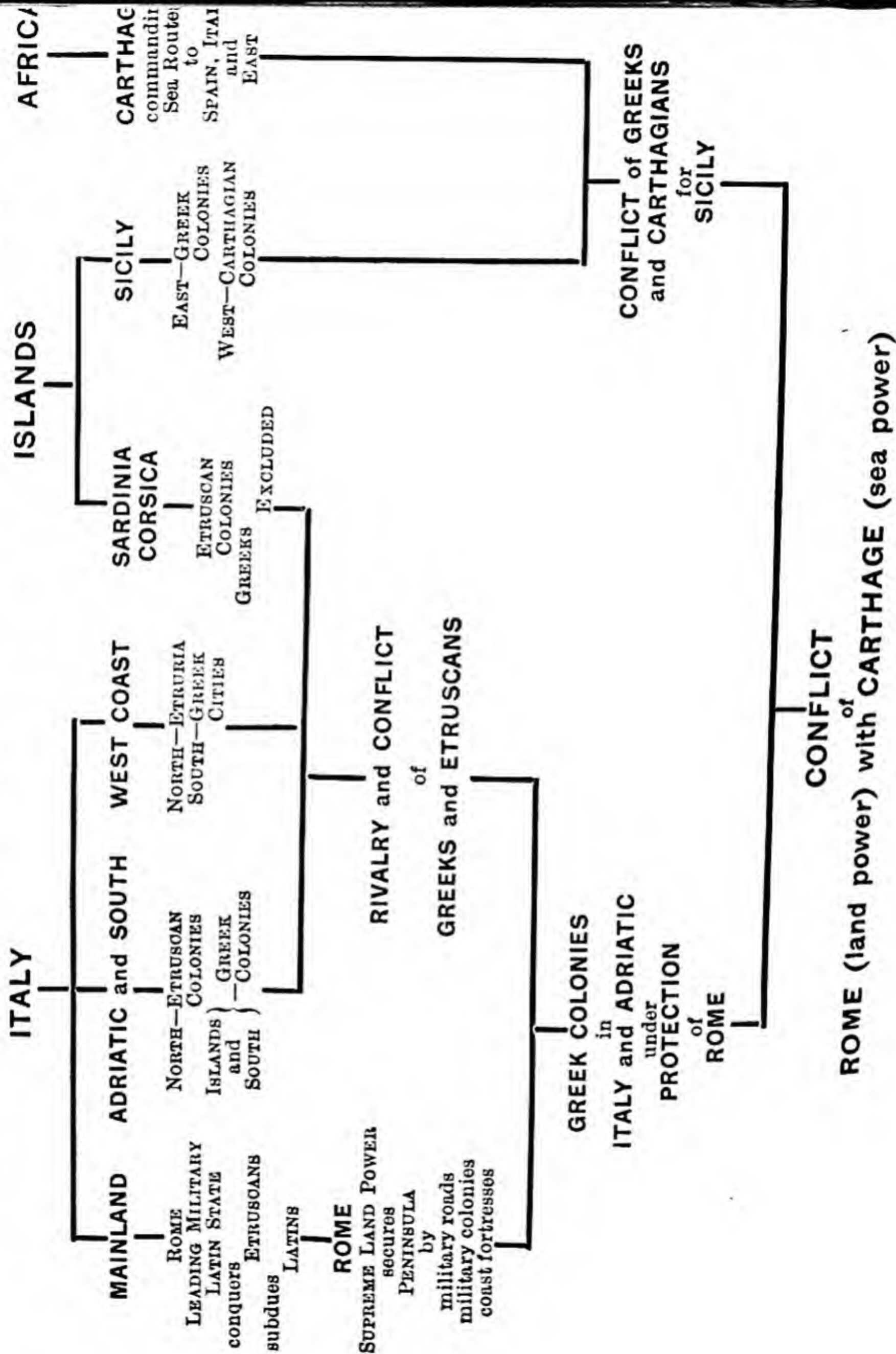
PHOENICIA



ROME.



SEA POWER IN WESTERN MEDITERRANEAN.



ROME v. CARTHAGE.

I.

FIRST WAR for POSSESSION of SICILY

ROME—A MILITARY LAND POWER
DEVELOPS SEA POWER
TO ATTACK CARTHAGE

1. BUILDS FLEET
2. ATTACKS CARTHAGINIAN FLEET
3. LANDS ARMIES IN SICILY AND AFRICA

CARTHAGE DEFEATED
ROME SUPREME
in
ISLANDS and ITALIAN SEAS

II.

SECOND WAR CARTHAGE TRIES TO REGAIN SUPREMACY

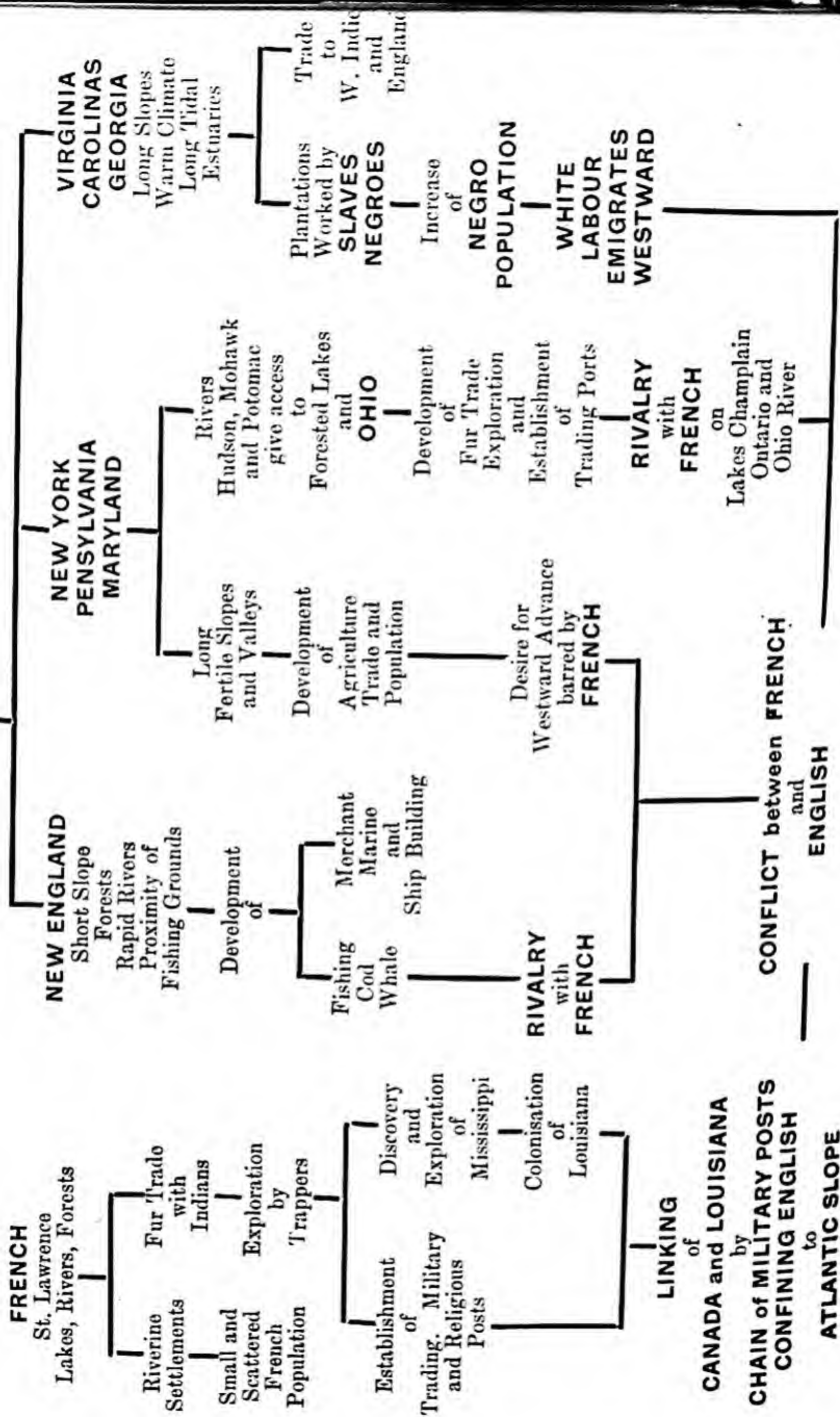
CARTHAGE—A SEA POWER
BUILDS UP LAND POWER
IN SPAIN
ATTACKS ROME BY
ALPINE PASSES
DEFEATS ROMAN ARMIES
IN ITALY
EXCITES REVOLT OF
SUBJECT PEOPLES
FAILS TO KEEP COMMAND
OF SEAS, SO OPEN TO
ATTACK IN SPAIN AND
AFRICA

ROME—UNABLE TO DEFEAT HANNIBAL
IN ITALY
HOLDS HANNIBAL AT BAY
CUTS OFF HANNIBAL FROM
SPAIN
INVADES SPAIN BY SEA
ENDS WAR BY INVASION OF
AFRICA

ROME SUPREME IN W.
MEDITERRANEAN

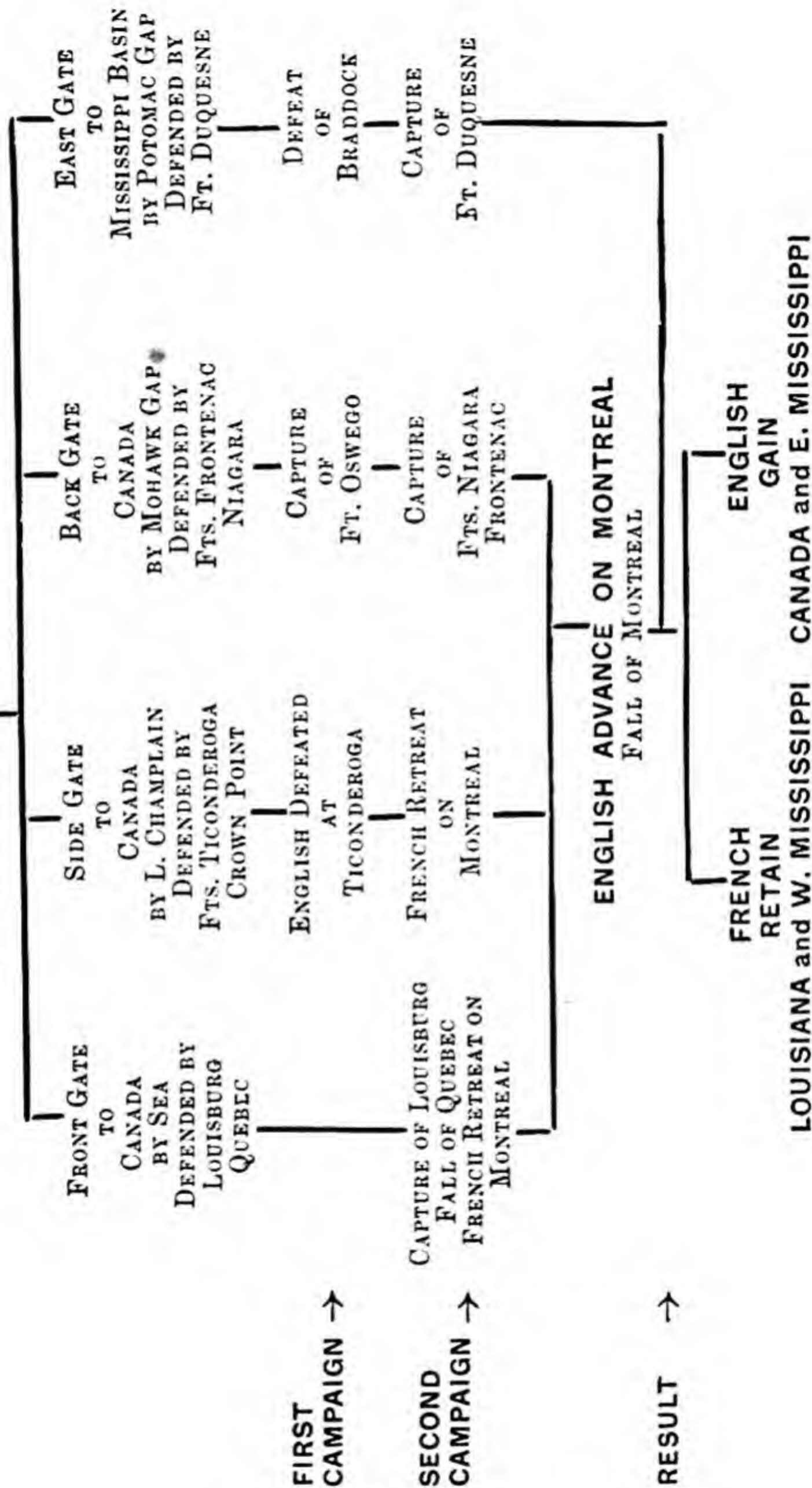
COLONISATION OF N. AMERICA.

ENGLISH

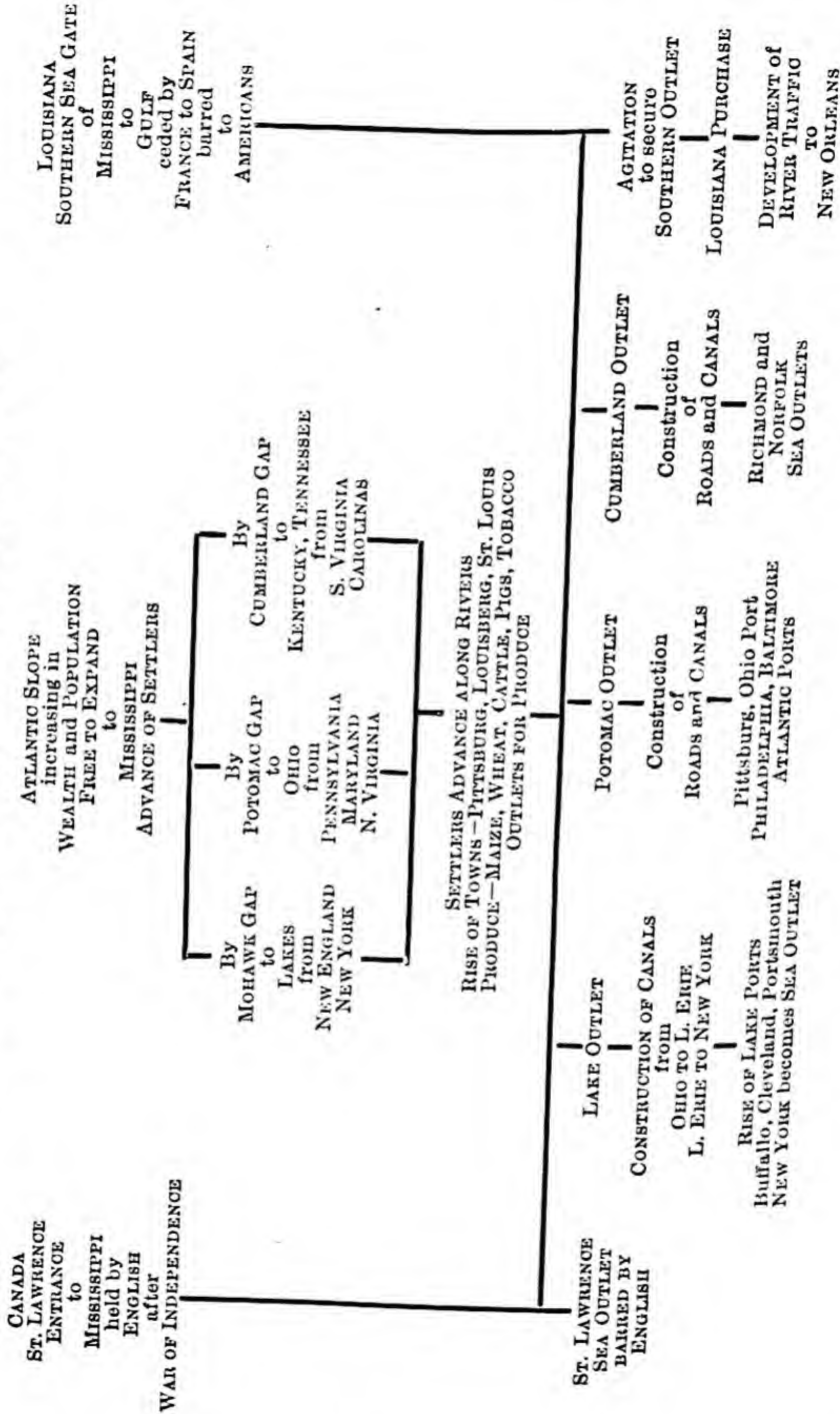


STRUGGLE OF FRENCH AND ENGLISH IN AMERICA.

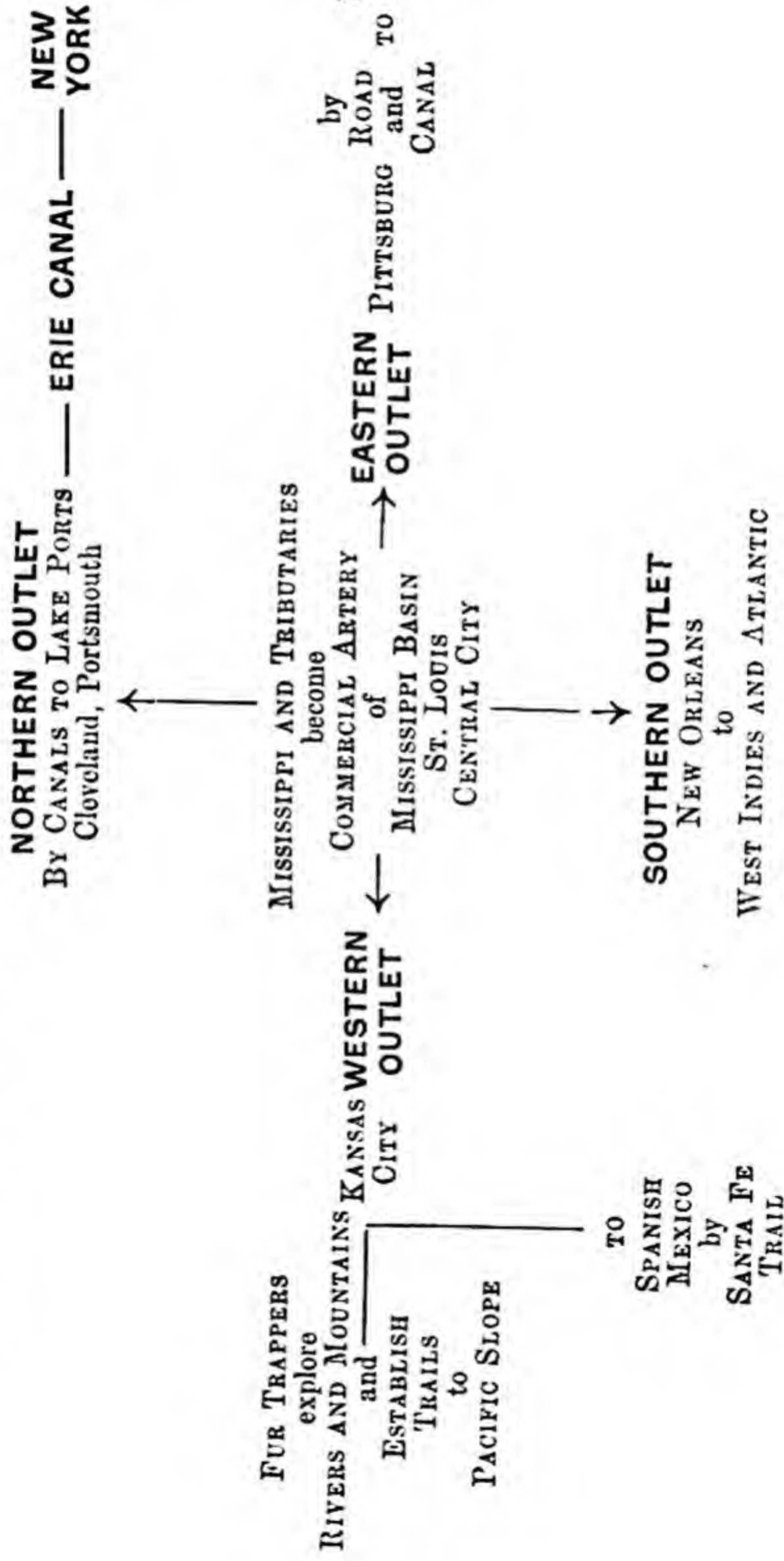
ENGLISH ATTACK ON FRENCH



ADVANCE OVER E. MISSISSIPPI.



COMMERCIAL SYSTEM OF MISSISSIPPI BASIN.



ADVANCE TO PACIFIC.

ROCKIES

WESTERN PLAINS

Arid
Rivers dry
in Summer
Hostile
Indians

CENTRAL PLATEAU

Deserts
Canons

MOUNTAIN RANGES

Passes
Snow in Winter

HEADWATERS

of
EAST AND WEST RIVERS
Haunts of Wild Animals

TRAVEL

DIFFICULT AND DANGEROUS
Heat in Summer
Snow in Winter
Drought
Long Journey
Hostile Indians

PACIFIC SLOPE
Good Climate
Dry in Summer
Fertile Valleys
Cattle and Timber

ATTRACTIVE
TO
SETTLERS

DISCOVERY
OF
GOLD

TRICKLE OF EMIGRANTS
WAGGON PARTIES

RUSH OF EMIGRANTS

INTRODUCTION
OF
RAILWAYS

FACILITATES
TRAVEL

DEVELOPMENT OF PACIFIC SLOPE

1. Ranches and Lumbering
2. Irrigation develops Corn and Fruit Farming
3. Metals develop Manufactures

APPENDIX II.

BIBLIOGRAPHY.

The following books are recommended to the teacher :—

On the Geography of Human Life and Development :

Wells : Outline of History.

Myres : The Dawn of History. (Williams and Norgate.)

Rawlinson : Phoenicia. (Putnam.)

Adam Smith : The Historical Geography of the Holy Land.
(Hodder and Stoughton.)

Fairgrieve : Geography and World Power. (Univ. of London Press.)

George : The Relations of History and Geography. (Oxford Press.)

Lucas : Historical Geography of the British Colonies. (Macmillan.)

Lucas : British Empire. (Macmillan.)

Seeley : Expansion of England. (Macmillan.)

Semple : The Influences of Geographic Environment. (Constable.)

Semple : American History and its Geographic Conditions.
(Constable.)

Brigham : Geographical Influences in American History.
(Ginn.)

Brigham : From Trail to Railway. (Ginn.)

Spears : Master Mariners. (Williams and Norgate.)

Mackinder : Britain and the British Seas. (Oxford Press.)

Mahan : The Influences of Sea Power. (Oxford Press.)

Ripley : Races of Europe. (Kegan, Paul, Trench, and Trübner.)

Belloc : The Historic Thames. (Dent.)

„ : Warfare in England. (Williams and Norgate.)

„ : The Old Road.

„ : Stane Street.

Beazley : Prince Henry the Navigator. (Putnam.)

- Ward Fowler : Julius Caesar. (Putnam.)
 Jacobs : The Story of Geographical Discovery. (Newnes.)
 Johnston : The Opening up of Africa. (Williams and Norgate.)
 Fiske : The Discovery of America. (Williams and Norgate.)
 The Story of Exploration Series. (Laurence and Bullen.)
 Johnston : The Nile Quest.
 Hogarth : The Penetration of Arabia.
 Fitchett's : The New World of the South. (Murray.)
 Spenser and Gillen : Across Australia. (Macmillan.)
 Bryce : South America. (Macmillan.)
 ,, : Impressions of South Africa. (Macmillan.)
 ,, : The American Commonwealth. (Macmillan.)
 ,, : Memories of Travel. (Macmillan.)
 Romance of British Industry Series. (Hodder and Stoughton.)
 Cornish : A Geography of Imperial Defence. (Sifton, Praed,
 and Co.)
 Taylor : Words and Places. (Macmillan.)
 Brehm : From North Pole to Equator. (Blackie.)
 Hogarth : The Nearer East. (Oxford Press.)
 Stanford's : Compendium of Geography. (Stanford.)
 Reclus : Universal Geography. (Stanford.)
 Huntington : The Pulse of Asia. (Houghton, Mifflin and Co.,
 Boston and New York.)
 Herbertson : Man and His Work. (Black.)
 Lyde : Man in Many Lands. (Black.)
 ,, : Man and His Markets. (Macmillan.)
 ,, : The Geography of Europe. (Macmillan.)
 Newbiggin : Modern Geography. (Williams and Norgate.)
 ,, : Tillers of the Ground. (Macmillan.)
 Enock : The Panama Canal. (Collins.)
 Worsfold : The Future of Egypt. (Collins.)
 Judd and Marshall : Lessons on Community and National
 Life. (Bureau of Education, Washington.)
 The Explorer Geographies. (Bell.)
 McKillian : The Highways of the World. (Bell.)
 The Home University Library. (Williams and Norgate.)

There are many books in this excellent series that give a broad survey of important topics of great value to the teacher of geography. Some of these works have already been mentioned above. The following will repay careful reading :—

Bruce : Polar Exploration.
 Bradley : Canada.
 Holderness : Peoples and Problems of India.
 Ward Fowler : Rome.
 Lunn : The Alps.
 Shepherd : Central and South America.
 Marrett : Anthropology.
 Gregory : The Making of the Earth.
 Murray : The Ocean.
 Margoliouth : Mohammedanism.
 Macgregor : The Evolution of Industry.
 Dickson : Climate and Weather.

The Library of Notable Books. (Nelson and Sons.)

This series contains many excellent works on travel and military expeditions of great value both to the teacher and to the pupil. The following are given only as a selection :—

Colvin : The Making of Modern Egypt.
 Steevens : With Kitchener to Khartoum.
 Churchill : River War.
 Durand : The Making of a Frontier.
 Steevens : In India.
 Candler : The Mantle of the East.
 Boulger : Life of Gordon.
 Pritchard : Where Black meets White.
 Durham : The Burden of the Balkans.



On Practical Geography and the Use of Maps :

Wallis : Practical Exercises in Geography. (Macmillan.)
 Newbiggin : Ordnance Survey Maps. (Johnston).
 Dickson : Maps. (Bacon.)
 Haddon : Educative Geography. (Bacon.)
 Lewis : Typical School Journeys. (Pitman.)
 „ : Longer School Journeys. (Pitman.)
 Snape : Geographical Diagrams. (Black.)
 Manual of Map Reading and Field Sketching (*Revised Edition.*)
 (H. M. Stationery Office.)

